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SYSTEM: SOME EXPERIE. (U) NAVAL POSTGRADUATE SCHOOL
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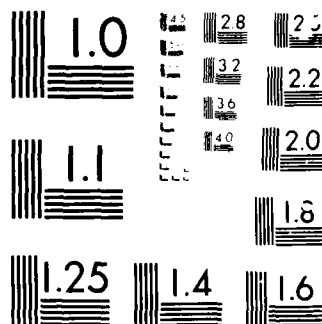
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THESIS

THE AS FINANCIAL REPORTING SYSTEM: SOME EXPERIENCE
ON PROTOTYPING AND USER INTERACTION

by

Ronald L. Booker

March 1986

Thesis Advisor:
Co-advisor:

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-User feedback is less intense and critical towards the final phase of the development process.

-Prototyping is cost-effective, at least for the first phases of system enhancements.

-Prototypes are disposable systems.

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**The AS Financial Reporting System:
Some Experience on Prototyping and User Interaction**

by

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Captain, United States Marine Corps
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Submitted in partial fulfillment of the
requirements for the degree of

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from the

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Abstract

Adaptive Design or prototyping has been suggested as an effective approach for developing and implementing computer-based decision support systems (DSS). The literature on DSS has also shown that adaptive design improves user involvement and satisfaction. This thesis attempts to follow the adaptive design approach to design and implements a data-oriented DSS -- the NPS Department of Administrative Sciences (AS) Database Reporting System. The development of the AS Reporting System has helped review the adaptive design strategy. The following findings were derived:

- Close participation between end user(s) and the system builder helps to clarify problem issues.
- Frequent brief interactions between end user and system developer provide more immediate and better defined response, resulting in a more effective prototype.
- Unstructured initial planning sessions involving the end user and the system builder could distract the end user from the definition of important initial requirements. A more structured, issue-oriented approach results in more timely and clearly defined requirements.
- User feedback is less intense and critical towards the final phase of the development process.
- Prototyping is cost-effective, at least for the first phases of system enhancements.
- Prototypes are disposable systems.

TABLE OF CONTENTS

	Page
I. INTRODUCTION -----	6
II. THE ADAPTIVE DESIGN APPROACH TO DSS DEVELOPMENT	8
A. WHAT IS ADAPTIVE DESIGN? -----	8
B. CHARACTERISTICS OF ADAPTIVE OR EVOLUTIONARY DESIGN -----	9
C. A MODEL FOR PROTOTYPING OR ADAPTIVE DESIGN-----	10
III. THE AS DATABASE REPORTING SYSTEM -----	12
A. BACKGROUND -----	12
B. METHODOLOGY: THE "DIARY APPROACH" -----	13
C. THE EVOLUTION OF THE AS REPORTING SYSTEM ARCHITECTURE -----	17
IV. RESULTS AND DISCUSSION -----	21
A. SOME OBSERVATIONS ON THE EXPERIMENT -----	21
B. RECOMMENDATIONS FOR FUTURE EXTENSIONS -----	23
V. CONCLUSIONS -----	25
VI. APPENDIXES -----	28
A. AS DATA BASE REPORTING SYSTEM USER'S MANUAL	28
B. DIAGRAM OF THE AS SYSTEM'S MENUS -----	53
C. AS SYSTEM'S MENUS -----	56
D. SAMPLE AS SYSTEM REPORTS -----	72
E. AS DATA BASE REPORTING SYSTEM PROGRAMMER'S MANUAL -----	77
F. DATA FLOW DIAGRAMS -----	91
G. STRUCTURE CHARTS -----	93
H. DATA DICTIONARY -----	114
I. PROGRAM LISTINGS -----	134
J. LIST OF TABLES -----	136
VII. LIST OF REFERENCES -----	207
VIII. BIBLIOGRAPHY -----	208

I. INTRODUCTION

The purpose of this thesis is twofold. First, it designs, develops and implements a data-oriented financial decision support system for the Department of Administrative Sciences (AS) of the U.S. Naval Postgraduate School -- the AS Database Reporting System. Second, throughout the development of the system, this thesis seeks to derive some observations on the effectiveness of the adaptive, or prototyping, approach in building an end user-oriented computerized decision support system.

There are at least two factors that have motivated this thesis. First, the increasing need of managing complex financial data within the Administrative Sciences Department has triggered interest among the department managers to automate their financial system. A computerized system is expected to provide accurate and timely information handling. It can also generate fast and standardized reports which are prohibitively labor intensive if done with the manual system.

Second, the literature on Decision Support Systems (DSS) often advocates that the traditional approach for developing a data processing system is not appropriate for prototyping. In fact, a conventional development life-cycle consists of eight phases. These include: system feasibility, software plans and requirements, product design, detailed design, code, integration, implementation and operations and maintenance [Ref. 1]. Such an approach requires full knowledge of the nature of the problem. Furthermore, it has revealed to be costly in time and effort. Since DSS requirements constantly change during the development process, using the traditional life-cycle model can be risky.

This thesis is organized as follows. Chapter II discusses the adaptive design approach to DSS development. Characteristics of the prototyping approach are addressed. Also, the model for prototyping is presented. Chapter III gives an account of the prototyping experiment with the AS Database Reporting System. The "diary approach" is adopted to record the evolution of the system architecture from the user interaction perspective. Chapter IV discusses some observations based on the prototyping experiment and provides suggestions for possible future extensions of the proposed system.

Three phases of iterative design are examined. Technical reports on the AS Database Reporting System are described in the appendices. Appendix A reproduces the user's manual. It provides instructions for the casual users. Diagrams of the system interface, reproduction of the system menus, and sample hard copy reports are respectively given in Appendices B, C and D. Appendix E contains detailed technical instructions intended for the database administrator and the system programmer. Data Flow Diagrams, structured charts, a data dictionary, program listings and lists of tables are respectively given in Appendices F, G, H, I and J.

II. THE ADAPTIVE DESIGN APPROACH TO DSS DEVELOPMENT

A. WHAT IS ADAPTIVE DESIGN?

Conventional design strategy in data processing systems invariably assumes that the requirements of the system can, and should, be determined prior to the implementation of the system. This requirements analysis can be achieved by performing logical analysis and investigation of user information processing needs and behavior [Ref. 2]. For instance, the requirements for an accounting system could be determined by examining accounting procedures and interviewing competent accountants.

However, such a procedure cannot be applied to building a DSS. A DSS can be defined as a computer-based system that helps its user(s) in solving ill-defined or unstructured decisions. As a consequence, the system designer cannot-- and eventually should not -- have or be required to have a complete understanding of the user's needs prior to the design and implementation process. Rather, he should expect that the emergence of unanticipated informational needs is a continuing part of the design and development effort.

Thus, adaptive design in a DSS involves the role of learning in the DSS building process. To reduce the risk of not being able to reach (uncertain) final objectives, DSS researchers often argue for adopting the prototyping strategy. This consists of focusing the development effort on building a quick and working prototype or model that has the most important features or ideas. This early system is next delivered to the end user for evaluation. The users then give their feedback for determining possible enhancements. The system builders study the users' suggestions and attempt to update the prototype accordingly. This interaction

between the user and the analyst continues until a satisfactory prototype is achieved. An important implication of such an iterative and evolutionary process is that both the user and the analyst are expected to make mistakes, but attempt to learn as much as possible from these mistakes.

B. CHARACTERISTICS OF ADAPTIVE OR EVOLUTIONARY DESIGN

The process of evolutionary design can be characterized by the following:

1. Remove the Pressure to Do it Right

Keen [Ref. 3] insists that the prototyping goal should be focused on effectiveness rather than on efficiency. It is essential that a system be built, even if it does not have all of the desired features. Such a strategy will help remove some pressure on the system builder. In fact, high requirements of the system reliability could be a gold-plating feature that causes delay and increased costs. The end user often wishes to see a working system -- even at the risk of incompleteness -- to understand what it is all about.

2. A Learning Process

Learning is an integrated part of the design process. It is assumed that the user copes with a semi-structured domain. Some relevant decision-making factors are unknown. Also, the decision making methods are vaguely defined. Prototyping can be used as a learning tool to explore the manner of change in the users' priorities. A good development process should lead to a redefinition of the user's way of analyzing the problem. This would in turn lead to a new way to resolve problems.

3. User Participation

Evolutionary design involves active user participation. The user should provide good and timely feedback to facilitate the enhancement process of early prototypes.

This implies that the DSS user employs the system and evaluates it in light of the merits of the information it provides to support decision making. He is expected to suggest changes in Input/Output formats and the structure of the prototype under development, rank the usefulness of various modules of the current system and to prioritize the usefulness of suggested features to be integrated.

4. Inexpensive Development Effort

Keen and Gambino [Ref. 4] argue that the first prototype should be inexpensive. By its nature, prototyping is a risky venture. Since potential benefits of the would-be DSS are often unclear, important development cost can hardly be justified. More important, a high initial investment can discourage the user to abort the process.

C. A MODEL FOR PROTOTYPING OR ADAPTIVE DESIGN

Neumann and Jenkins propose a prototype model that consists of four procedures. As shown in Figure 1, the first procedure is a design step that attempts to identify the user(s)'s basic information requirements. A number of requirements analysis approaches were proposed to identify the users(s)'s requirements; the data abstraction approach - the essential features are data and data relationships, and the process simulating approach -- both data and processes must be identified in the first step. [Ref. 5]

The second step involves the development of the initial or enhanced prototype which can then be delivered to the user for use and feedback. In the third step, the use of the prototype leads to discussions and suggestions for enhancing the prototype (the fourth step).

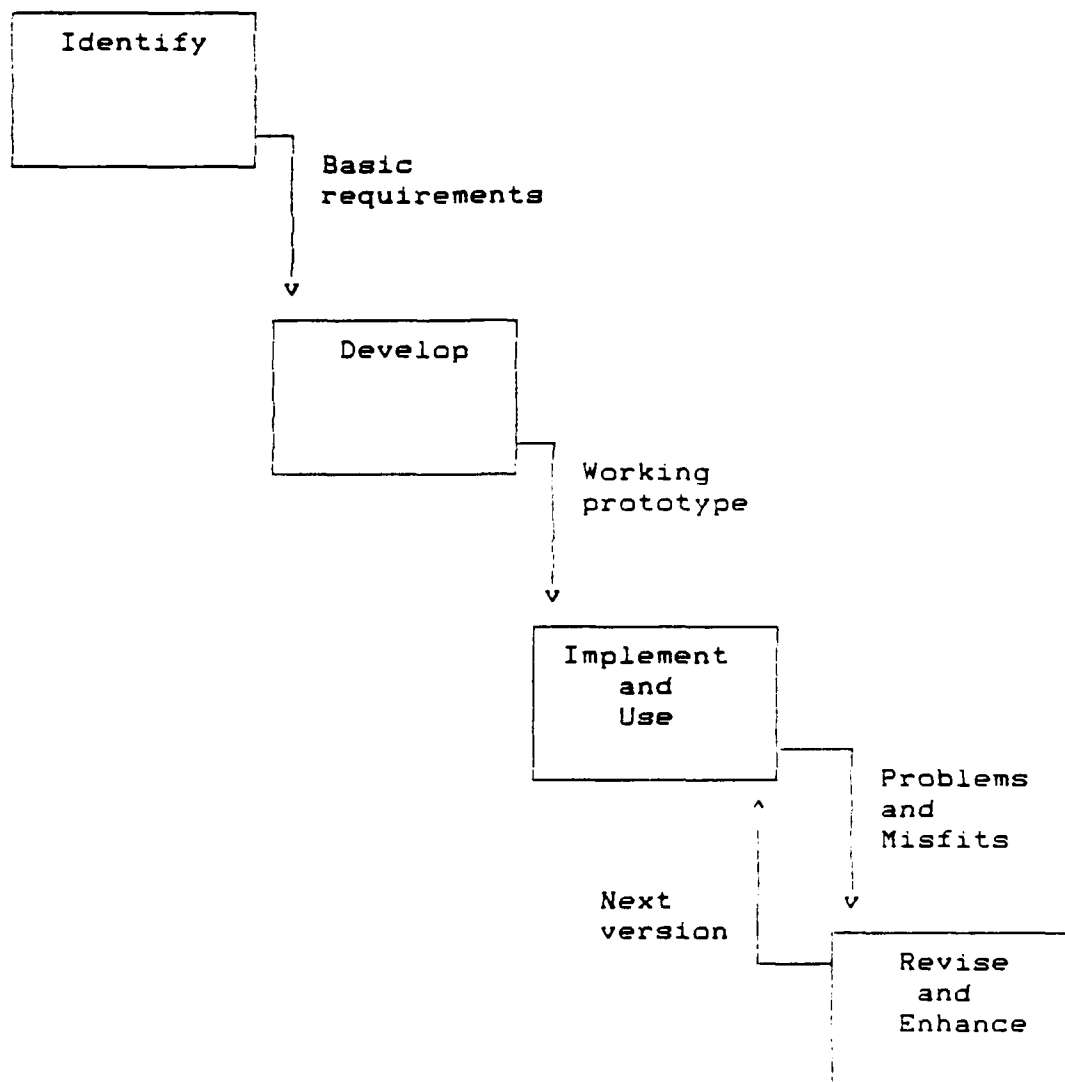


Figure 1
A Model for Prototyping

It should be noted however that the interaction between the user and the model is the key issue during the entire process. It is the quality and speed of the interaction between the user and the system developer that dictates the successfulness of the prototyping project.

III. THE AS DATABASE REPORTING SYSTEM

A. BACKGROUND

The Department of Administrative Sciences (AS) of the U.S. Naval Postgraduate School has operated its financial data base manually. With a size of more than one hundred personnel, including faculty and staff, financial operations and planning has required substantial investment in manpower. With its growing size, there has been a universal recognition to have an computer-based data base management system (DBMS). In March 1984, an information requirements analysis had been explored by Renner [Ref. 6]. This analysis applied the methodology of structured design to derive some suggestions for building a relational DBMS for the AS department [Ref. 7]. In November 1984, a first attempt to implement a DBMS was initiated by a Management Information Systems faculty member (who played the role of the system builder) in collaboration with a departmental management assistant (who played the role of the potential user). The KnowledgeMan (K-Man) relational Data Base Management System was adopted as the system generator. K-Man was chosen because of its flexible relational database concept and the possibility to perform spreadsheet analysis and graphics. It also leaves room for the trained end user to manipulate the DBMS command language. Extensive interaction between the two interested parties has lead to a thorough requirements analysis and system specifications. Also, a few data tables and displayed screen interfaces were developed to test the feasibility of using K-Man as the system generator.

B. METHODOLOGY: THE "DIARY APPROACH"

Ginzberg argues for a "Diary Approach" to observe the relationship between the user and the system designer [Ref. 8]. This approach has proven useful in recording the evolution of the systems modifications and user satisfaction. The diary approach consists of using a log book to systematically record the history of the DSS development process. Its records the evolution of the system due to modifications requested by both the system builder and the users. Figure 2 describes the three elements involved in the adaptive design of the AS database reporting system. Among the users, the management assistant and the faculty advisor maintained close interaction with the graduate student. The interaction with the faculty advisor primarily dealt with conceptual designs and technical issues. The interaction between the management assistant and the graduate student was almost daily. It focused on the system development and the interface format; i.e., screen design and reports. The interaction with the administrative assistant and interested office clerks was casual. They provide feedback on the quality of the user interface.

Table I reports historical entries on the iterative design process. The changes were either initiated by the user (i.e., the management assistant) or the system developer (i.e., the author). The definition of the acronyms used in the table can be found in Appendix H.

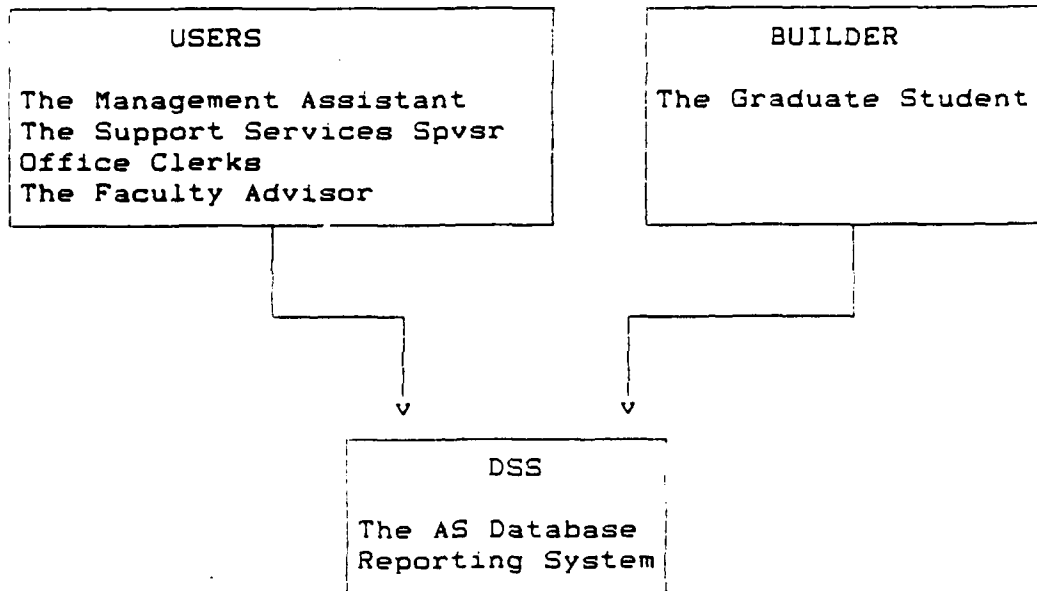


Figure 2 : The Elements of the Adaptive Design of the AS Database Reporting System

TABLE I. DIARY ENTRIES

DATE	INITIATOR (D = DEVELOPER, U = USER)	ACTION
3 Sep	D	Worked on forms to add data to the personnel history (PHISTORY) tables.
4 Sep	D	"
5 Sep	D	Same as above. K-Paint directions were misread; caused 2 days delay. Created three PHISTORY reports for user to confirm design.
8 Sep	D	Continued working on PHISTORY reports.
9 Sep	D	"
26 Sep	U	User had problems accessing files. This was caused by a hardware problem. Created three menus; the main, expenses and data base menus.
29 Sep	U	Modified/created 5 reports.
30 Sep	D	Modified the PHISTORY menu program and created a program to delete records.
3 Oct	D	Transferred files to another computer due to hardware problems. (Backed-up and reconfigured system.)
8 Oct	D	Everything is at the same state as 2 weeks ago - lost 2 weeks due to Backup problems.
15 Oct	D	Attempted to pass an ICF program in the deletion modules. -- Not successful.
15 Oct-13 Nov	D	Attempted to get around above problem by using MACRO(s). -- Not successful. Decided to use case statements if necessary in modules. -- This was successful.

13 Nov	D	Corrected PHISTORY report. Page headers were not displayed. Error was in reading K-Paint documentation.
15 Nov	D	Attempted to speed-up processing by RELEASING modules. -- Not successful.
18 Nov	D	RELEASE and MACRO(s) are not needed in the code.
20 Nov	U	Trying to determine a method of printing the last date that a table was updated on a report. -- Not successful.
21 Nov	D	Demonstrated system for user.
26 Nov	U	Made the system more user friendly (error detection) by using loops in programs.
1 Dec	D	Working on menus for the reports generators.
2 Dec	U	Modified PHISTORY report.
11 Dec	U	Created Outstanding TO(s) Report.
12 Dec	U	Modified forms for entering data from mixed case to upper case. Added a RATE field to PHISTORY table to ease computation of virtual fields.
14 Dec	D	Created forms to enter data and modified programs to display menus.
7 Jan	D	Modified programs to load tables and forms once to speed up processing.
9 Jan	D	Created form to enter data.
14 Jan	D	7 Jan modifications were not successful. Deleted modifications.
15 Jan	D	Demonstrated system to user. Implemented system.

18-26 Jan	U	Modified and created programs to allow user to access specific records. Required creation of 83 more files. (perform files, forms and error messages)
3 Feb	U	Modified the personnel funding report.
6 Feb	U	Deleted INDIRECT.DOC# from INDIRECT entry forms and added SEGMENT and SERIALS to INDIRECT table.
	D	Modified the DELTREC2.IPF module so that the last record in a table will not be deleted if a match of the deletion criterion is not found.
13 Feb	U	Took INDIRECT.EXTENDED out of tables -- not needed.
16 Feb	U	Added PURCHASE.QTY to entry forms.
17 Feb	U	Added INDIRECT.SERIALS and INDIRECT.SEGMENT to entry form. Deleted INDIRECT.DOC# from same.
19 Feb	U	Found two different data values called INDIRECT.DOC#. Placed INDIRECT.DOC# back in entry form.
	D/U	Took financial analysis option out of MAINFRM.IPF (not enough time to develop and implement). Crossed modified system over to production.

With the "Diary Approach" any major design decisions or accomplishments, and significant problems or events were logged. As the design of the system progressed, the majority of the actions were initiated by the user(s).

C. THE EVOLUTION OF THE AS REPORTING SYSTEM ARCHITECTURE

Departing from the original architecture, this section discusses the required modifications that occurred throughout the implementation and testing processes. During the development process, it has been noticed that the user has actively participated in the creation of the DBMS prototype.

Such participation has triggered numerous generations of new requirements and consequently modifications to the originally planned design. The purposes of this thesis are (i) to expand the initial system, a working but incomplete data base system that is used as a management planning tool, and (ii) to observe the evolutionary development of the DBMS in terms of user needs and satisfaction.

1. The Initial AS Reporting System Architecture

The initial AS Reporting System Architecture (Figure 3) was based on four income accounts; OPTAR, 10% Indirect, other sources of income and research funds, and four expense accounts; miscellaneous expenses, travel, personnel salary and equipment/supplies. Figure 3 shows that the income accounts had varied expenses; i.e., miscellaneous expenses, travel and equipment/supplies may be funded by the OPTAR account. Additionally, there may be major restrictions on expense funding; i.e., equipment/supply purchases over \$3000 may not be funded by the OPTAR account, personnel salaries may not be funded from the OPTAR account.

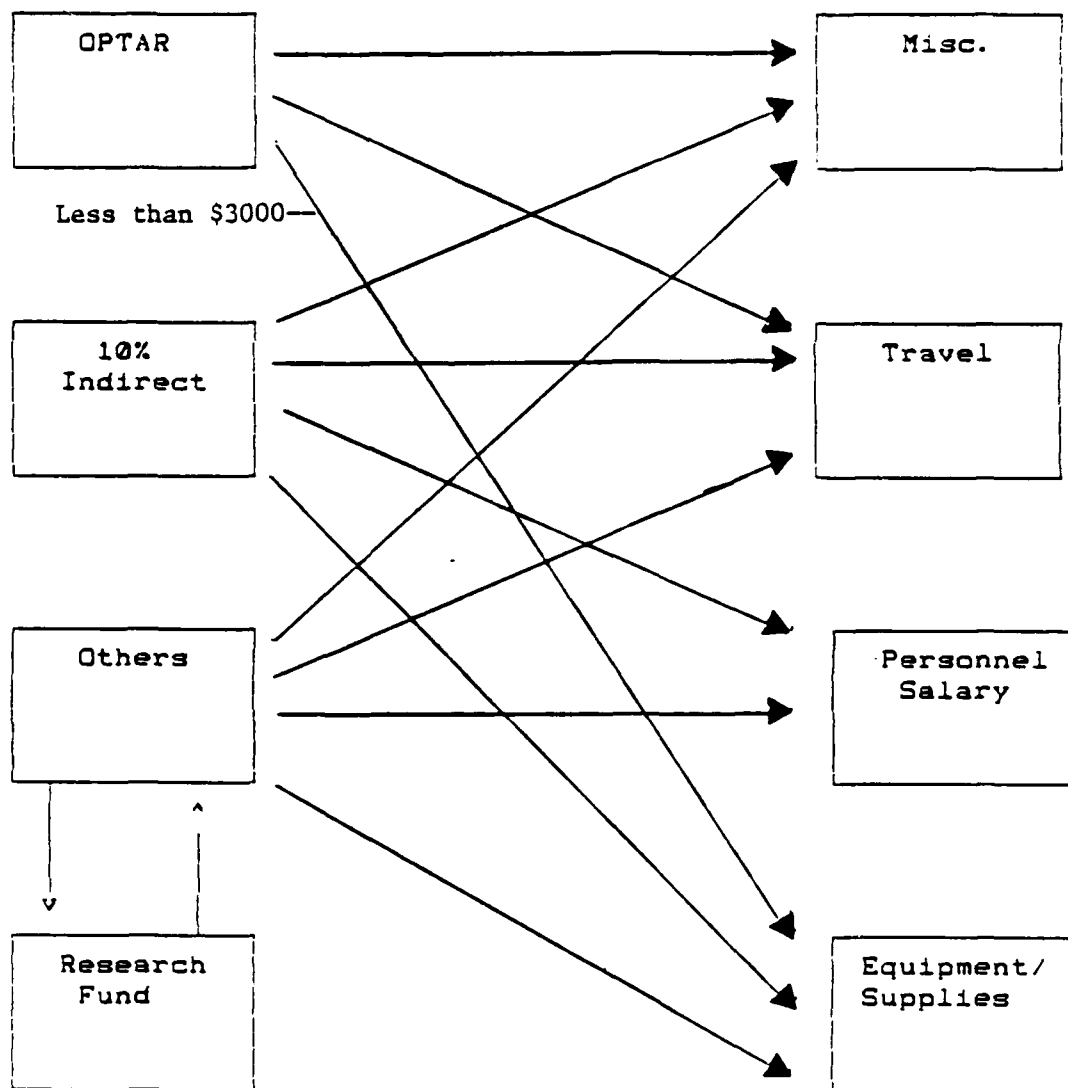


Figure 3: The Initial AS Reporting System Architecture

2. The First Modification Stage

During the first modification stage, an additional income account, OPTAR balance, and an additional expense account, travel request, were deemed necessary to provide the user(s) with more financial information.

3. The Second (Final) Modification Stage

During this stage, accounts (data tables) were added and deleted from the AS Reporting System's Architecture. The two data tables added during the first modification stage, OPTAR Balance and travel request were deleted. The OPTAR and travel accounts, with minor modifications, could provide the same information as the before mentioned deleted tables. Two tables were added, one table contained personnel information (pay grade, job status, etc.) and another contained an inventory of property. Appendix J is a list of the current data tables and their respective data fields. The following are major changes resulting from user interaction:

1. Redefinition of field names and types to increase consistency throughout the data base and deletion or addition of data fields; redefined fields -- 7, deletion of fields -- 12, addition of fields -- 16.
2. Menu and form formats.
3. Change of instructions on menus and forms.
4. Compromise of report formats to fit both users; the more knowledgeable user wanted more information while novice users wanted less.
5. The ability to select records based on specific field values.

IV. RESULTS AND DISCUSSION

This thesis involved the design and implementation of a data-oriented decision support system to support financial decision making of the AS Department.

A. SOME OBSERVATIONS ON THE EXPERIMENT

1. Close Participation Between the End User(s) and the Systems Builder

Adaptive Design allows the user to actively participate in the evolution of the system characteristics. Three basic changes in the system design occurred during the prototyping effort. First, some data tables were redesigned. Field names and sizes had been redefined. A number of tables were combined. Second, additional program modules were added to coordinate various systems functions using menu structures. The latter render the sequencing of program modules transparent to novice users. Third, the use of the system (i.e., K-Man) command language was increased.

In a more conceptual level, the cross examination of the prototype give rise to better understanding of the issues related to the financial system. The experience with the implementation of the AS Reporting System also confirms some early findings that argues prototyping as a catalyst to participative design, learning, and organizational development [Ref. 9]. In effect, it has been observed that the main participating user has gained increasing interest in the understanding and design of systems. Also, the early success of the prototype has generated some redesign of office tasks.

2. Interaction Time

The more frequent the interaction time between the user and the developer, the more effective the prototype.

Delayed feedback has proven to slow down the learning process and weaken the participants' enthusiasm. Time pressures could be used as a strategy to speed up the interaction process.

3. Planning Sessions

Unstructured initial planning sessions involving the end user and the system builder could distract the end user from the definition of important initial requirements. A more structured, issue-oriented approach results in more timely and clearly defined requirements. This is even accentuated when there is more than one participating user and/or novice users. Individual differences sometimes have produced conflicting design suggestions. However, effective group discussion have proven to avoid the risk of designing system features that reflect strong biases from a single individual. Henderson [Ref. 10] raises the potential risk of loss of creativity when dealing with multiple participating users. Due to little group interaction, and more importantly, to the large disparity in the degree of participation, it was not possible to confirm nor disconfirm the impact of group interaction processes and user creativity.

4. User Feedback is Less Intense and Crucial Towards the Final Phase of the Development Process

The user feedback is expected to end when a satisfactory system is delivered. It seems to be unrealistic to expect the end user -- even though he/she has become more computer literate -- to keep expanding the system. Since the user has captured the capabilities as well as limitations of the system, he/she can more or less precisely formulate requirements for future enhancements. At this

stage, the need of sustained user feedback seems to be less crucial -- requested modifications are normally minor.

5. Cost Effective

Prototyping is cost effective, at least for the first phase of system enhancements. The effort spent on developing a successful and complete module has allowed duplication of programming procedures to similar modules in later version of the prototype. However, it is not clear that the economies of scale effect would continue to implement more complex integrated modules in the future.

5. Prototypes are Disposable Systems

At least for the user who has participated throughout the entire design and implementation process, the prototype has become to a certain degree disposable. Since the participative user has become increasingly computer literate, some of the initially requested DSS features have revealed to be less useful. In fact, the ease-of-use and structured features of the system has reduced the DSS to perform only for a well-defined set of data manipulation and reporting. To perform unusual data manipulation, a trained user can now directly use the DSS generator command language. However, this seems to be true only for the user who has worked closely with the development of the system. Other users, who are primarily casual users and non computer experts, are expected to find the system useful.

B. RECOMMENDATIONS FOR FUTURE EXTENSIONS

By definition, the adaptive design should help the system to be progressively expanded. The current system primarily handles data management and report generation. There are a number of possible enhancements that could be added to the current release of the AS database reporting system.

1. Forms Handling

The AS department office information system operates via a multiplicity of predesigned paper forms such as travel orders, purchasing stubs, reimbursement forms, etc.. These forms have been processed by office clerks using typewriters. Additional report procedures could be added to the current release of the AS Database Reporting System to generate these stub from the computer printers. Such a capability would significantly improve the office productivity by reducing typing errors, and duplication of effort in twice entering the same set of information using both the typewriter and the computer.

The generation of office forms for the printer can be done by using the K-Report report generation feature to replicate forms. This could be done without much difficulty. It should be noted however that continuous customized computer forms must be ordered.

2. Financial Planning

To support financial planning, data that reflect the balances of various expenses accounts should be rapidly computed. Also, the user should be able to import selected data from data tables to handle spreadsheet analysis. The use of spreadsheets would allow the user to perform what-if analysis on various financial decisions. Furthermore, a trend analysis can be supported by the system by displaying various graphical charts of key financial figures. To implement the financial planning capability to the system, the following steps are suggested:

1. Join relevant financial data tables together.
2. Write procedures to compute conditional aggregate values.
3. Import aggregate values into the K-Man spreadsheet.
4. Describe procedural steps for the user to manipulate spreadsheet functions.
5. Import data from the spreadsheet to the K-Graph feature for graph generation.

3. Regulation Engineering

As with any governmental agency, the financial decision making process has to strictly follow the laws and regulations determined by the Federal Government. These regulations include travel expenses (e.g., 10% money cannot be used for Invitational Travel Order), personnel (e.g., the OPTAR account cannot be used for personnel salaries), and equipment purchases (e.g., sole source justification is needed for expenses whose amount is more than one thousand dollars; purchase using OM & N funds cannot exceed three thousand dollars). The responsibility to make sure that financial decisions are legal relies solely on the user. Due to the complexity and diverseness of regulations, it would be useful that the system can store some knowledge in the system. The latter can be used as a internal comptroller that instantaneously checks the legal aspect of all financial transactions.

The knowledge on various legal issues and financial practices could be acquired and integrated into the current AS database reporting system by using GURU; an off-the-shelf expert system development tool and a by-product that can be fully interfaced with K-Man.

V. CONCLUSIONS

The purpose of this thesis was twofold:

1. To use the adaptive or prototyping approach to implement a data-oriented DSS for tracking financial transactions of the Naval Postgraduate School's Department of Administrative Sciences.
2. To derive from the system development, some observations on the impact of the prototyping approach on systems design.

These two objectives have been achieved. First, the AS Database Reporting System has been used since January 1986. The system has gained in usage as the system has benefited from enhanced capabilities. Also, the number of systems users has also increasing. Travel clerks and purchasing clerks begin to use the system on a regular basis. Various members of the department also use the system on a casual basis via the Management Assistant who is currently the database administrator. Second, this thesis confirmed some of the early results found recently on the DSS literature regarding the DSS design strategy.

The results of this study was reported both in the main body of the thesis and the appendices. Chapter I described basic concepts and issues relating to prototyping. Chapter II reported the development process of the AS Database reporting system in light of the adaptive design. The "Diary Approach" was adopted to record development activities and the interaction between the user and the system developer. During the development process, close interaction with the user has lead to three modifications of the AS Reporting System Architecture. Chapter III analyzed and discussed the results of the experiment. Some suggestions for future extensions of the current database were also presented. The integration of spreadsheet analysis, graphical displays, and

a knowledge-based system to the current version of the AS Database Reporting System would greatly improve the decision support role of the implemented financial system.

VI. APPENDIXES

APPENDIX A ADMINISTRATIVE SCIENCES (AS) DATA BASE REPORTING SYSTEM

USER'S MANUAL

TABLE OF CONTENTS

	Page
I. INTRODUCTION -----	29
II. PRINCIPAL USERS -----	30
III. OPERATION OF SYSTEM -----	31
A. LOCATION -----	31
B. START-UP -----	31
C. EXIT -----	32
D. DATA MANIPULATION -----	33
E. PRINTING PREDEFINED REPORTS -----	36
IV. TABLES -----	37
A. SOURCES OF DATA FOR TABLES -----	37
V. ERRORS AND ABNORMAL PROCESSING -----	51

I. INTRODUCTION

The purpose of this user's manual is to guide the first or casual user to get acquainted with the operations of the Administrative Sciences (AS) Data Base Reporting System (the AS System). The current version of the AS System is an interactive, menu driven data base management system. This system is used to input, edit and store the U.S. Naval Postgraduate School's Administrative Sciences Department's financial data (i.e., the AS Department's OPTAR, data relative to the AS Department's indirect cost and research account, and the Department's equipment inventory) and to create financial reports for budgetary planning. Because this is a menu driven system, prior programming knowledge is not required to use the AS System.

For the sake of simplicity, aspects that are related to the conceptual design and technical specifications of the AS System are described in separate documents -- the Programmer's Manual and the thesis titled "The AS Financial Reporting System: Some Experience on Prototyping and User Interaction"; written by R.L. Booker.

This manual is organized as follow. General and most frequently asked information are provided in chapters I through III while more specific and less used information are provided in chapters IV and V.

II. PRINCIPAL USERS

The principal users of this system are expected to be the AS Department's Support Services Supervisor, Management Assistant, Travel Clerk and Procurement Clerk. The Management Assistant is the AS System's Data Base Administrator (DBA). All request or suggestions for changes and major problems should be referred to the Data Base Administrator.

Table I indicates some functions that the AS System can currently provide to support the tasks of each of the above mentioned users.

USERS	DUTIES	SYSTEM SUPPORT
Support Services Supervisor	Supervises, plans and coordinates the department's support functions and clerical support.	Status update on personnel.
Management Assistant	Interprets reports of all financial receipts, expenditures and records. Identifies contributing sources and makes comparisons to establish budget trends.	Updates financial balances from purchase and travel expenses reports.
Travel Clerk	Prepares and manages all travel related documents for department. Coordinates and manages all travel related arrangements.	Outstanding TO(s) report
Procurement Clerk	Receives requests for department procurement.	Requisition Status and Inventory reports

TABLE I. SYSTEM FUNCTIONS

III. OPERATION OF SYSTEM

A. LOCATION

The System is resident on the IBM-PC XT in room Ingersoll 230.

B. START-UP (BOOT-UP)

1. Place the provided DOS version 2.1 diskette in floppy drive (slot) A of the PC; the left drive in Figure 1.
2. The computer and printers are connected to a toggle switch under the computer table. The on-off switch on the computer should always be in the on position. Turn the toggle switch on to turn the computer and printer on. The computer will run its system's checks. (Steps 1 and 2 are considered a cold start) Note the warm start procedures below.
3. When the C> prompt appears, type in KMAN MAINMEN.
4. When prompted, type in your name and password.
5. When the AS System menus appear, make your menu selections.

Warm Start Procedures:

If the power has been previously turned on and the provided DOS version 2.1 diskette has been previously loaded, steps 1 and 2 of the start-up instructions may be ignored. Instead, together press the two keys marked CONTROL and ALT, and then the key marked DELETE (This is considered a warm start.). Now perform steps 3 through 5.

C. EXIT

1. Select the last option in the main menu to exit the AS System.
2. Turn the toggle switch off. (power off)
3. Take the diskette out of the computer.

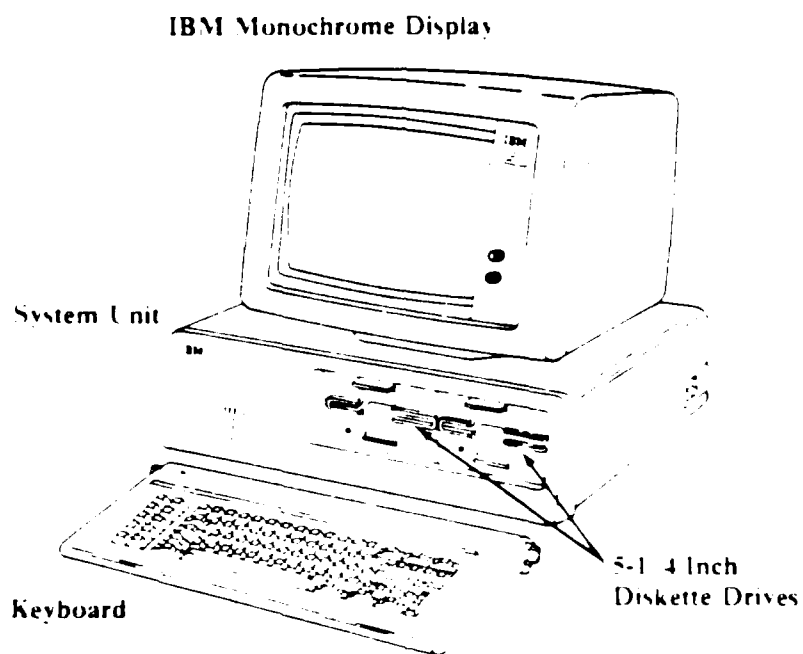


Figure 1. IBM PC

D. DATA MANIPULATION

All of the table manipulation instructions are displayed on BLUE menus. The following options are available for each table:

- browse a table : allows viewing of all the records in a table
- update a record : allows modifications of the contents of records given specific selection criterion
- add a record : allows the addition of a record to a table
- delete a record : allows the deletion of a record from a table based on specific criterion
- return to calling menu : will display the next higher level menu

Appendix B is a chart of the AS Systems menu's hierarchy and Appendix C displays the AS System's Menus.

1. To View All of the Records in a Table.

Select the "browse a table" option in the specific table menu. A form will appear displaying the first record within the table. The table is sorted based on a predetermined requirement. The bottom of the form contains instructions for moving the cursor on the form and for viewing the prior or next record. If an attempt is made to display past the last record in a table, the cursor will move to the BOTTOM LEFT corner of the screen and the table's menu will be displayed.

Note -- Pressing ESC in the BOTTOM LEFT corner below.

2. To Update a Record or Group of Records in a Table.

Select the "update a record" option in the specific table's menu. A form will appear requesting the entry of a

specific value that will select only the records containing that exact value. Enter the selection value.

- a. If a record meets the selection value criterion, the only record, or the first record, that meets the selection criterion will be displayed on a form. The bottom of the form contains instructions for moving the cursor on the form and for viewing the prior or next record that meets the selection criterion. If an attempt is made to display pass the last record that meets the selection criterion, the cursor will move to the BOTTOM LEFT corner of the screen and the table's menu will be displayed.
- b. If a record does not meet the selection criterion, the following message will be displayed - "No records satisfy this request". The table's menu will then be displayed. Confirm that the selection value was entered or spelled correctly by selecting the "browse a table" option. Repeat the steps to update a record. If the problem continues, notify the AS System Administrator.

Note - Pressing ESC in the BOTTOM LEFT corner below.

3. To Add a Record.

Select the "add a record" option in the specific table's menu. A form will appear in which the data for a specific record is entered. The form contains instructions for moving the cursor on the form.

Note - Pressing ESC in the BOTTOM LEFT corner below.

4. To Delete a Record in a Table.

Select the "delete a record" option in the specific table's menu. A form will appear requesting the entry of a selection value that will enable the display of only the record(s) containing that selection value. Enter the selec-

tion value. Another form will appear confirming deletion of a record. If Y is entered, you are committed to deleting a record. If N is entered, the table's menu will be displayed and no record(s) will be deleted.

If Y is entered for deleting a record and a record meets the selection value, the only record, or the first record, that meets the selection criterion will be displayed on a form. The bottom of the form contains instructions for moving the cursor on the form and for viewing the prior or next record that meets the selection criterion. Place the cursor in the TOP LEFT corner of the form and press the ESC key to delete a record. ONLY the record that is displayed when the ESC key is pressed will be deleted. After the record has been deleted, the table's menu will be displayed.

Note - Pressing ESC in the BOTTOM LEFT corner below.

WARNING

If more than one record meets the selection criterion, all of the records that meet the criterion will be able to be displayed and deleted. If you attempt to display pass the LAST record that meets this criterion, this record will be DELETED without the requirement to press the ESC key. Therefore, check the displayed record to ensure that it is not the record for deletion before attempting to display the next record. Remember, the LAST record that matches your selection criterion will be DELETED if displaying pass the LAST record is attempted.

Pressing ESC in the BOTTOM LEFT Corner.

If ESC is pressed while the cursor is in the BOTTOM LEFT corner, the following message will appear: FEXIT or FABORT
hit - are you sure (Y/N) ?

- Y will exit the AS System.
- N will display the table's or report's calling menu.

E. PRINTING PREDEFINED REPORTS

For the current version, five reports have been generated and could be automatically invoked. These include the Quarterly Inventory, Outstanding TO(s), Personnel Funding, Personnel History and the Requisition Status reports. Appendix D contains samples of the AS System's Reports. The menus for REPORT printing are colored BROWN. Select the menu containing the report that is required to be printed. ENSURE that the printer is CONNECTED to the computer and turned ON. Select the option for the report that requires printing. (Due to numerous sorts involved in printing of the Personnel Funding Report, there is a 1-3 minute wait before the report is printing.) After the report has been printed, the calling menu will be displayed.

Note -- If printing of a report is attempted while the printer is not on or connected to the computer, an error message will be displayed. Connect the printer and turn it on. Now attempt to print the report.

Note -- All reports are formatted for the NEC 3550 printer. Use of other printers will require changes to the AS System's programs. Notify the DBA if this is necessary.

IV. TABLES

The AS System's data is stored in the following tables:

1. Indirect - information on research and other reimbursable sources of funds and resulting Indirect Costs to Department
2. OPTAR - contains information on Department's operating budget
3. Other - contains information on other sources of Department funding
4. Personnel Funding - contains personnel expense data
5. Personnel History - contains personnel data for staff positions within the AS Department
6. Purchase - contains data on Department and research purchases
7. Travel Expenses - Department and Research travel expenses

A. SOURCES OF DATA FOR TABLES

Indirect Table:

- entry date - date record entered into the AS System
- status
 - if research, **pending** when first entered into AS System and changed to **funded** when funding document received from Comptroller
 - if other reimbursable, **funded**
- principal
 - if research, last name of principal investigator on proposal
 - if other reimbursable, from Code 002 Reimbursable Funds Status Report

- sponsor
 - if research, from proposal
 - if other reimbursable, **source** from Code 002 Reimbursable Funds Status Report
- proposal
 - if research, actual title of proposal (confirm with funding document when funding document received)
 - if other reimbursable, **title** from Code 002 Reimbursable Funds Status Report
- period
 - if research, dates specified on proposal for performance of research
 - if other reimbursable, no entry
- estimate
 - if research, estimated cost of research for current fiscal year from proposal's budget page
 - if other reimbursable, no entry
- DEPTIC
 - if research, the amount that the department is expected to receive in indirect cost; calculated from the proposal's budget page (10% of total labor charges)
 - if other reimbursable, no entry
- MIPR
 - if research, **MIPR #** from Block #5 of funding document (Military Inter-department Purchase Request)
 - if other reimbursable, no entry
- ref#
 - if research, **Reference #** from Block #5 of funding document (Order for Work and Services, NAVCOMPT 2275)
 - if other reimbursable, no entry
- authorized
 - if research, **actual authorization** from Code 002 Memorandum (Funds Authorization Grant/Change)
 - if other reimbursable, **act auth** from Code 002 Reimbursable Funds Status Report

- costcode - if research, **job order** from Code 002 Memorandum (Funds Authorization Grant/Change)
- if other reimbursable, **JO #** from Code 002 Reimbursable Funds Status Report
- expiration - if research, **exp date** from Code 002 Memorandum (Funds Authorization Grant/Change)
- if other reimbursable, **exp date** from Code 002 Reimbursable Funds Status Report
- ICRECD - if research, **Indirect (Chairman)** from Code 002 Memorandum (Funds Authorization Grant/Change)
- if other reimbursable, **ind cost (chair)** from Code 002 Reimbursable Funds Status Report
- staff - if research, total of all support labor
- labor on proposal's budget page
- if other reimbursable, no entry
- as - if research, amount which the principal
- appropria- investigator agreed to give the Department
- tion - if other reimbursable, verbal authorization from principal investigator or Department Chairman.
- doc# - if research, **Document #** from Block #2 of funding document (Order for Work and Services, NAVCOMPT 2275)
- segment - if research, **segment** from Code 002 Memorandum (Funds Authorization Grant/Change)
- if other reimbursable, **seg** from Code 002 Reimbursable Funds Status Report
- serials - if research, **serial #'s** from Code 002 Memorandum (Funds Authorization Grant/Change)
- if other reimbursable, **doc #'s** from Code 002 Reimbursable Funds Status Report

OPTAR Table:

- entry date - date record added to AS System
- date - date of latest authorization memo received
- authorized - total amount authorized; from Code 00 Memorandum (Fiscal Year Interim Operating Target)
- travel authorized - amount designated for travel; from Code 00 Memorandum (Fiscal Year Interim Operating Target)
- actual - changes in authorized; from reissues of Code 00 memorandum (Fiscal Year Revised Interim Operating Target)
- travel actual - changes in travel authorized; from reissues of Code 00 Memorandum (Fiscal Year Revised Operating Target)
- difference - (actual - authorized); computed by AS System
- travel diff - (travel actual - travel authorized); computed by AS System

Other Table: - comes from verbal authorization of Department Chairman or Associate Chairman for Research and the principal investigator

- entry date - date that the record is entered into the AS System
- status - status of availability of funds to Department; **pending, received, or expired**
- expiration - **Expires** from Research Administration print-out or **Exp Date** from Reimbursable Funds Status Report provided at time of agreement
- principal - **Account** from Research Administration print-out; or **principle investigator** from Reimbursable Funds Status Report
- sponsor - **sponsor** from Research Administration print-out or **source** from Reimbursable Funds Status Report
- proposal - **title** from Research Administration printout or Reimbursable Funds Status Report
- costcode - **cost code** from Research Administration printout or **JO#** from Reimbursable Funds Status Report
- authorized - amount agreed upon for Departmental use
- remarks - misc

Personnel Funding Table: all data comes from the department's outgoing Support Employment Schedule

- entry date - date of record entry to AS System
- last name - from **employee**, from outgoing Support Employment Schedule Memorandum
- first name - from Personnel History table
- fund date - date of outgoing Support Employment Schedule Memorandum
- fund from - date funding period commences, **dates** from outgoing Support Employment Schedule Memorandum
- fund to - date funding period terminates, **dates** from outgoing Support Employment Schedule Memorandum
- # of days - number of 8-hour days worked during funding period, **days** from outgoing Support Employment Schedule Memorandum
- hours - number of hours in excess of 8-hour days worked, **hours** from outgoing Support Employment Schedule Memorandum
- cost code - from outgoing Support Employment Schedule
- code - from the following department codes:
 - SS; support salaries
- amount - calculated based upon rate and number of days/hours worked
- rate - employee's rate during funding period, **rate** from personnel funding
- hours per week - number of hours employee worked during funding period, **hours per week** from personnel history

Personnel History Table:

- entry date - date record is entered into table
- last name - from block # 1 of Standard Form 50 (Notification of Personnel Action)
- first - from block # 1 of Standard Form 50 (Notification name of Personnel Action)
- DOB - date of birth from block # 4 of Standard Form 50 (Notification of Personnel Action)
- effective - from block # 14 of Standard Form 50 (Notification of Personnel Action)
- status - from block # of Standard Form 50 (Notification of Personnel action); T = temporary; P = permanent
- billet # - from block # 27 of Standard Form 50 (Notification of Personnel Action); assigned by CPO
- job title - from block # 27 of Standard Form 50 (Notification of Personnel Action)
- elements/ - date elements and standards set for performance review; from current performance appraisal
stds set
- work unit - assigned by support services supervisor, if any
- work - **immediate supervisor**, from Block # of Position director Description cover sheet
- PD # - from block # 27 of Position Description cover sheet or block # 27 of Standard Form 50 (Notification of Personnel Action)
- series - from block # 29 of Standard Form 50 (Notification of Personnel Action)
- grade - from block # 30 of Standard Form 50 (Notification of Personnel Action)
- step - from block # 31 of Standard Form 50 (Notification of Personnel Action)

- annual salary - from block # 32 of Standard Form 50 (Notification of Personnel Action)
- hours per week - # of hours worked per week, from Block # 37 of Standard Form 50 (Notification of Personnel Action)
- expire - date of expiration of temporary appointment, from block # 18B of Standard Form 50 (Notification of Personnel Action)
- rate - value automatically computed by the System
- remarks - misc

Purchase Table:

- entry date - date that the record is entered into AS System
- document # - from block # 36-43 of DD Form 1348 (Requisition System Document)
- costcode - or JO#, from block # 46-50 of DD Form 1348 (Requisition System Document)
- vendor - from block # A of DD Form 1348 (Requisition System Document)
- item description - from block # 8-22 of DD Form 1348 (Requisition System Document)
- stock # - or part #, from block # 8-22 or Remarks of DD Form 1348 (Requisition System Document)
- estimate - from block # T of DD Form 1348 (Requisition System Document)
- priority - from block # 60-61 of DD Form 1348 (Requisition System Document)
- RDD - required delivery date, from block # 62-64 of DD Form 1348 (Requisition System Document)
- code - from the following department codes:
 - LO; transportation of things (Federal Express)
 - MR; rental of equipment
 - PM; maintenance of minor property
 - PP; maintenance of plant property
 - QH; honoraria
 - QT; registration fees
 - TS; consumable supplies
 - WM; minor property acquisition
 - WMC; computer equipment/accessories
 - WP; plant property acquisition
 - WPC; computer equipment
 - YP; commercial printing

- requestor - last name of individual who requested purchase, from Block # of DD 1348 (Requisition System Document)
- PO# - purchase order # from Block # 2 of DD 1155 (Purchase Order)
- received - date item received, from receiving copy of DD 1348 (Requisition System Document)
- firm price - final price, from Block U of DD 1348 (Requisition System Document) or Block # 23 of DD 1155 (Purchase Order)
- serial - if a plant account item, from equipment
- pa# - plant account #, from inventory records forwarded by receipt control
- issue - name of individual plant account equipment issued to, from
- location - location of plant account equipment, from
- qty - from Block # of DD 1348 (Requisition System Document)
- remarks - misc

Travel Expenses Table:

- departure
 - if civilian orders, from Block # 10B of DD 1610 (Request and Authorization for TDY Travel of DOD Personnel)
 - if military orders, from Block # 9 of NAVPERS1320/16 (TEMADD Travel Orders)
 - if invitational orders, from **Proceed on or about** from NAVSO4650/10 (Invitational Travel Order)
- requester
 - if civilian orders, from Block # 2 of DD 1610 (Request and Authorization for TDY Travel of DOD Personnel)
 - if military orders, from Block # 3 of NAVPERS1320/16 (TEMADD Travel Orders)
 - if invitational orders, from Block # 1 of NAVSO4650/10 (Invitational Travel Order)
- location
 - destination of traveler
 - if civilian orders, from Block # 11 of DD 1610 (Request and Authorization for TDY Travel of DOD Personnel)
 - if military orders, from Block # 13 of NAVPERS1320/16 (TEMADD Travel Orders)
 - if invitational orders, from Block # 1 of NAVSO4650/10 (Invitational Travel Order)
- code
 - type of travel from the following department codes:
 - EI; invitational travel
 - ET; TAD travel
- estimate
 - estimated cost of travel
 - if civilian orders, **total** from Block # 14 of DD1610 (Request and Authorization for Travel of DOD Personnel)
 - if military orders, **total** from Block # 18 of NAVPERS1320/16 (TEMADD Travel Orders)

- if invitational orders, from **for the purpose of** from NAVSO4650/10 (Invitational Travel Order)
- costcode - or JO#, from travel orders
- if civilian orders, from Block # 19 (62217-XXXXX) of DD1610 (Request and Authorization for Travel of DOD Personnel)
- if military orders, from Block # 17(8) of NAVPERS1320/16 (TEMADD Travel Order)
- if invitational orders, from Block # 7 (62271XXXXX) of NAVSO4650/10 (Invitational Travel Order)
- doc # - if civilian orders, **tango** from Block # 19 of DD1610 (Request and Authorization of TDY Travel of DOD Personnel)
- if military orders, **tango** from Block # 4 of NAVOERS1320/16 (TEMADD Travel Order)
- if invitational orders, from Block # 7 (ITXXXXX) of NAVSO4650/10 (Invitational Travel Order)
- advance - if civilian orders, from Block #15 of DD-1610 (Request and Authorization of TDY Travel of DOD Personnel)
- if military orders, from Block # 21 of NAVPERS1320/16 (TEMADD Travel Order)
- if invitational orders, no entry
- return - date of return, calculated from travel orders
- claim date - from Block # 14 of DD Form 1351-2 (Travel Voucher or Sub-voucher)
- firm price - total of Blocks #7 and # 10 from DD Form 1351-2 (Travel Voucher or Sub-voucher)
- entry date - date of record entry to AS System

- DOV #
- **DO Voucher No.** from Block # 10 of DD Form 1351-2 (Travel Voucher or Sub-voucher)

Inventory Table:

- pa# - plant account number, from Block # 54 of DD 1342 (DOD Property Record)
- vendor - from Block # 14 of DD 1342 (DOD Property Record)
- description- from Block # 26 of DD 1342 (DOD Property Record)
- serial # - from Block # 17 of DD 1342 (DOD Property Record)
- PO# - purchase order number, from Block # 25 of DD 1342 (DOD Property Record)
- cost - from Block # 6 of DD 1342 (DOD Property Record)
- received - from Block # 54 of DD 1342 (DOD Property Record)
- issue - from Block # 28 of DD 1342 (DOD Property Record)
- location - from Block # 28 of DD 1342 (DOD Property Record)

V. ERRORS AND ABNORMAL PROCESSING

A. ERRORS

Notification of errors are given by two methods:

1. The AS System will display a WHITE on RED flashing message, which will prompt for a legal entry. When entering numbers, only use the numbers along the top of the keyboard.

2. The language (KnowledgeMan) or the Disk Operating System (DOS) will display a WHITE on BLACK message. The following are examples of messages which may be displayed:

a. Do you want to escape (Y/N)? - Normally enter N (no).

b. <type> error reading <device>; Abort, Retry, Ignore? - Normally enter R (retry).

If display of the message continues, enter A (abort).

c. A warning message may appear; example - File not found. Note the error message, exit the AS System, remove the diskette and notify the System Administrator.

3. ABNORMAL PROCESSING

If the AS System does not process normally (takes a longer than normal time to process), press the ESC key. Pressing the ESC key will either return processing to the calling menu or exit the AS System and the KnowledgeMan prompt (_) will appear.

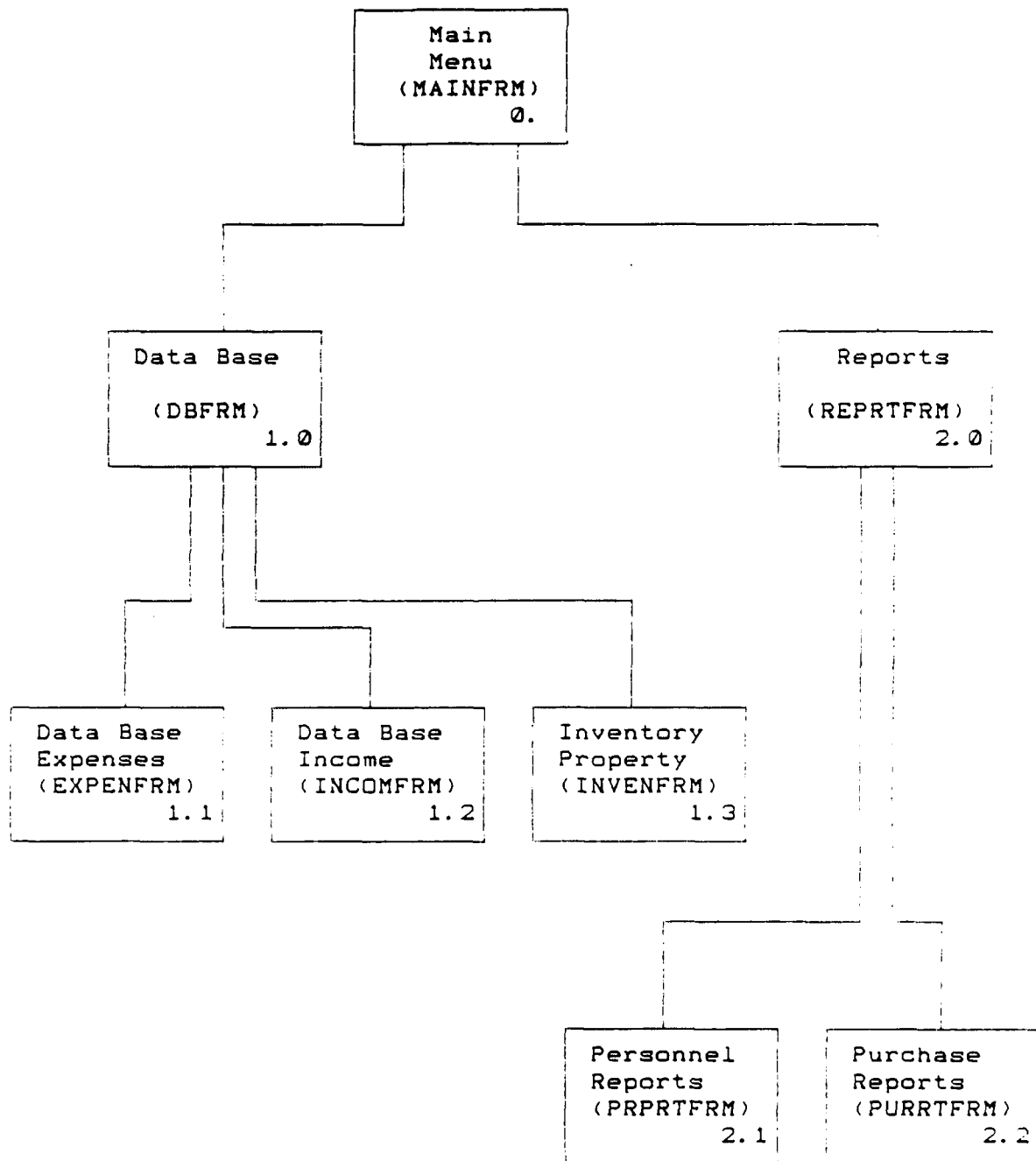
Then perform the following:

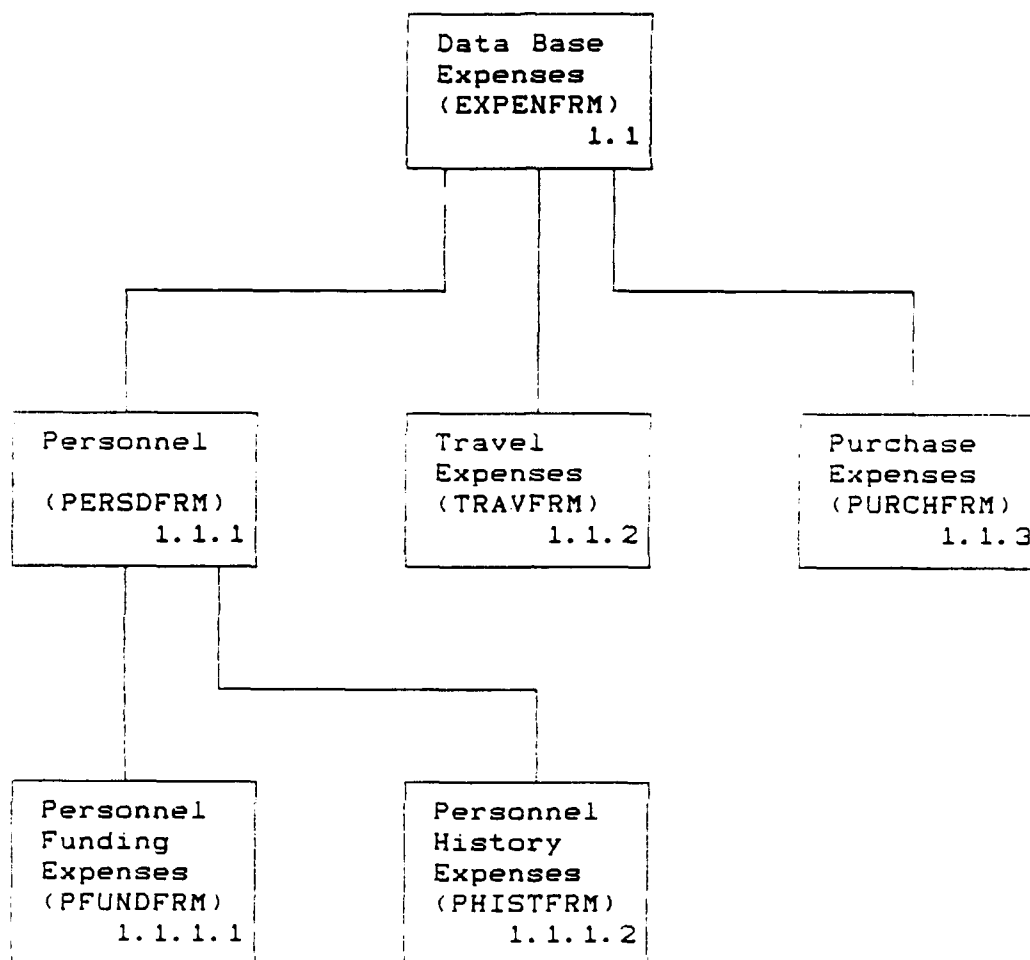
1. If processing is returned to a calling module, attempt to continue normal processing. If the problem contin-

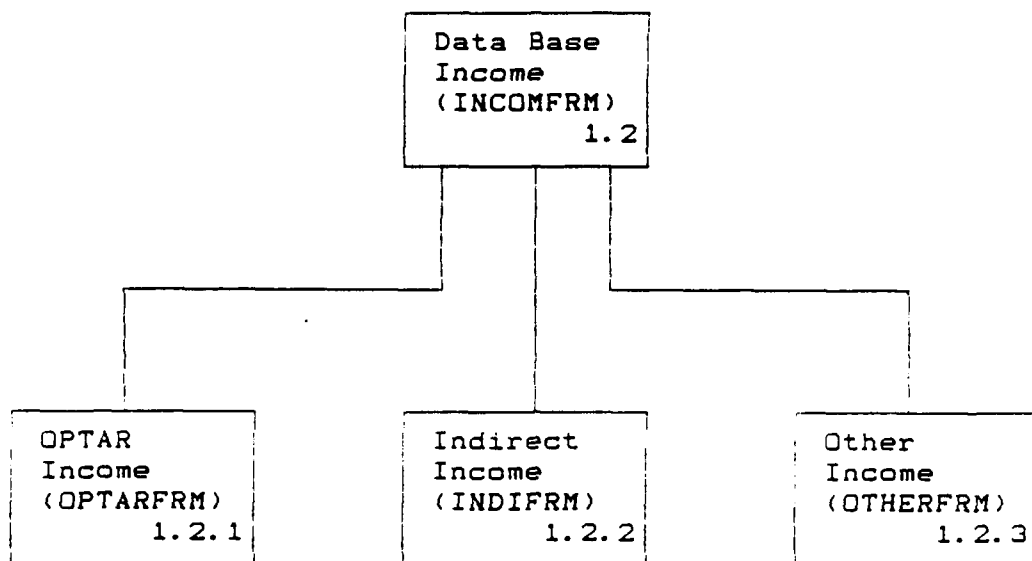
ues, turn the power off, remove the diskette and notify the System Administrator.

2. If the KnowledgeMan prompt (_) appears, type in KMAN
MAINMEN and attempt to continue normal processing. If the problem continues, turn the power off, remove the diskette and notify the System Administrator.

APPENDIX B
Diagram of the AS System's Menus







APPENDIX C
AS SYSTEM'S MENUS

AS Financial Reporting System

Main Menu

- 1 - Data Base
- 2 - Reports
- 3 - To Quit

enter your selection _

0

Data Base

- 1 - Expenses
- 2 - Income
- 3 - Property
- 4 - Return to calling menu

enter your selection _

1

Database Expenses

- 1 - Personnel
- 2 - Travel
- 3 - Purchase
- 4 - Return to calling menu

enter your selection _

1.1

Personnel

- 1 - Personnel Funding
- 2 - Personnel History
- 3 - Return to calling menu

enter your selection _

1.1.1

Personnel Funding Expenses

- 1 - Browse a Table
- 2 - Update a Record
- 3 - Add a Record
- 4 - Delete a Record
- 5 - Return to calling menu

enter your selection _

1.1.1.1

Personnel History Expenses

- 1 - Browse a Table
- 2 - Update a Record
- 3 - Add a Record
- 4 - Delete a Record
- 5 - Return to calling menu

enter your selection _

1.1.1.2

Travel Expenses

- 1 - Browse a Table
- 2 - Update a Record
- 3 - Add a Record
- 4 - Delete a Record
- 5 - Return to calling menu

enter your selection _

1.1.2

Purchase Expenses

- 1 - Browse a Table
- 2 - Update a Record
- 3 - Add a Record
- 4 - Delete a Record
- 5 - Return to calling menu

enter your selection _

1.1.3

Data Base Income

- 1 - OPTAR
- 2 - Indirect
- 3 - Other
- 4 - Return to calling menu

enter your selection _

1.2

OPTAR Income

- 1 - Browse a Table
- 2 - Update a Record
- 3 - Add a Record
- 4 - Delete a Record
- 5 - Return to calling menu

enter your selection _

1.2.1

Indirect Income

- 1 - Browse a Table
- 2 - Update a Record
- 3 - Add a Record
- 4 - Delete a Record
- 5 - Return to calling menu

enter your selection _

1.2.2

Other Income

- 1 - Browse a Table
- 2 - Update a Record
- 3 - Add a Record
- 4 - Delete a Record
- 5 - Return to calling menu

enter your selection _

1.2.3

Inventory Property

- 1 - Browse a Table
- 2 - Update a Record
- 3 - Add a Record
- 4 - Delete a Record
- 5 - Return to calling menu

enter your selection _

1.3

Reports

- 1 - Personnel
- 2 - Purchase
- 3 - Financial
- 4 - Travel - Outstanding TO(s)
- 5 - Return to calling menu

TURN THE PRINTER ON

enter your selection _

Personnel Reports

- 1 - Personnel Funding
- 2 - Personnel History
- 3 - Return to calling menu

enter your selection _

2.1

Purchase Reports

- 1 - Requisition Status
- 2 - Quarterly Inventory
- 3 - Return to calling menu

enter your selection _

2.2

APPENDIX D
SAMPLE AS SYSTEM REPORTS
Outstanding TO(s)

DEPARTMENT OF ADMINISTRATIVE SCIENCES
REPORT: OUTSTANDING TO(s)

REPORT DATE: 03/10/86
REVISION DATE:

COST CODE	DOC #	REQUESTOR	CLAIM	DOV #
EGD05	6TOA2226	Coffey	- - 0	
EGD05	6TOA2227	Coffey	- - 0	
EGD00	6ITA3361	esc	- - 0	
EGD00	6TOA3350	Greer	85-11-12	
EGD00	6TOA3352	Schneidewind	85-12-02	
EGD00	6ITA3351	Suchan	85-12-13	X3559
EGD00	6TOA3353	Mackay	85-01-29	X4744
EGD00	6TOA3354	Landeros	86-02-11	X5185
EGD00	6TOA3355	Hale	86-02-19	X5374
EGD00	6TOA3361	Elam	- - 0	
EGD00	6TOA3356	Straub	- - 0	
EGD00	6TOA3357	Widmeyer	- - 0	
EGD00	6TOA3358	Conger	- - 0	
EGD00	6ITA3359	Pracht	- - 0	
EGD00	6ITA3360	Schocken	- - 0	
GUCTN	6TOA4820	Haag	85-11-25	
GUCTN	6TOA4821	Bui	- - 0	
NONE	851201	Evered	- - 0	
NONE	851202	McMasters	- - 0	
RCAZ2	6TOA7002	Lapatra	85-11-20	
RCAZ2	6TOA7001	BUDDENBERG	85-12-04	X3168
RCAZ2	6TOA7003	LaPatra	85-12-12	X3524
RCAZ2	6TOA7005	Jones	86-01-29	X4743
RCFCF	6TOB7725	Creighton	- - 0	
RCFCF	6TOA7727	Creighton	- - 0	
RCFCF	6TOB7726	Creighton	- - 0	
RCFCF	6TOB7727	Creighton	- - 0	

Personnel Funding

DEPARTMENT OF ADMINISTRATIVE SCIENCES
REPORT: PERSONNEL FUNDING

REPORT DATE: 03/10/86

NAME	FUND FROM	FUND TO	SRS/WK	DAYS	HOURS	COST CODE	RATE	AMOUNT
	- - 0	- - 0	0		0		\$ 0.00	\$ 0.00
	- - 0	- - 0	0		0		\$ 0.00	\$ 0.00
Allen, Monique	85-10-14	85-10-14	0	01	0	XBOLL	\$ 0.00	\$ 0.00
	85-10-15	85-11-10	0	19	0	RPCS1	\$ 0.00	\$ 1362.49
	85-11-11	85-11-11	0	01	0	XBOLL	\$ 0.00	\$ 0.00
	85-11-12	85-11-27	0	12	0	RPCS1	\$ 0.00	\$ 860.52
	85-11-28	85-11-28	0	01	0	XBOLL	\$ 0.00	\$ 0.00
	85-11-29	85-12-07	0	06	0	RPCS1	\$ 0.00	\$ 430.26
	85-12-08	85-12-24	0	12	0	RPCS1	\$ 0.00	\$ 860.52
	85-12-25	85-12-25	0	01	0	XBOLL	\$ 0.00	\$ 0.00
	85-12-26	85-12-31	0	04	0	RPCS1	\$ 0.00	\$ 286.84
	86-01-01	86-01-01	0	01	0	XBOLL	\$ 0.00	\$ 0.00
	86-01-02	86-01-03	0	02	0	RPCS1	\$ 0.00	\$ 143.42
	86-01-06	86-01-08	0	03	0	XALSL	\$ 0.00	\$ 0.00
	86-01-09	86-01-19	0	09	0	RPCS1	\$ 0.00	\$ 645.19
	86-01-20	86-01-20	0	01	0	XBOLL	\$ 0.00	\$ 0.00
	86-01-21	86-02-05	0	12	0	RPCS1	\$ 0.00	\$ 860.52
	86-02-17	86-02-17	0	01	0	XBOLL	\$ 0.00	\$ 0.00
	86-10-01	85-10-13	0	39	0	RPCS1	\$ 0.00	\$ 645.19
Salesteri, Angela	85-10-01	85-10-13	0	06	0	RLQSP	\$ 0.00	\$ 545.40
	85-10-14	85-10-14	0	01	0	XBOLL	\$ 0.00	\$ 0.00
	85-10-15	85-11-10	0	12	0	RLQSP	\$ 0.00	\$ 1090.80
	85-11-11	85-11-11	0	01	0	XBOLL	\$ 0.00	\$ 0.00
	85-11-12	85-11-27	0	08	0	RLQSP	\$ 0.00	\$ 727.20
	85-11-28	85-11-28	0	01	0	XBOLL	\$ 0.00	\$ 0.00
	85-11-29	85-12-22	0	10	0	RLQSP	\$ 0.00	\$ 909.30

Page 1

Personnel History

DEPARTMENT OF ADMINISTRATIVE SCIENCES
REPORT TITLE: PERSONNEL HISTORY

REPORT DATE: 03/10/86

NAME	JOB TITLE	SERIES	GRADE	STEP	POB	BILLET#	EXPIRE	WORK UNIT	WORK DIRECT
Allen, Monique	Research Technician	103	5	1	A0656	918q	86-09-30	Func.Skill	Seicht
Balesteri, Angela	Editorial Asst. (Typ	1087	5	9	A0505	304q	86-09-23		San Miguel
Buttles-Miller, Beth	Management Assistant	144	7	1	A0140	827q	86-08-31		Dickey
Cochrane, Candi	Research Technician	103	5	1	A1065	954q	86-09-30		Enake
Covington, Maria	Travel Clerk (Typing	2132	4	10	A0467	135q	- - 0		Dickey
Devia, Helen	Statistician (Ops. &	1530	11	1	A0836	877q	86-10-01		Thomas
Dickey, Laurenda	Support Services Sup	142	9	1	A0871	881q	86-05-14		Greer
George, Karen	Technical Manuals Wr	1083	7	1	A1085	913q	86-10-10	Func.Skill	Arrijo
Gouveia, Cynthia	Copier/Duplicating O	150	2	1	A1037	843q	87-01-11		Dickey
Howard, LaVerne	Clerk-Typist	122	4	4	A1078	267q	- - 0		Dickey
Humphreys, Susan	Clerk-Typist	122	4	3	A0488	134q	- - 0		Dickey
Hutchings, Renske	Research Technician	103	5	1	A0938	896q	86-06-02		Thomas
James, Greta	clerk-typist	122	1	1	a1144	262q	- - 0		dickey
Kocher, Kathryn	Labor Economist	110	11	7	A0496	915q	86-03-26		Thomas
Krauthammer, William	Social Services Aid	1186	4	1	A0671	864q	86-07-21	MARC	Zimmerman
Lathrop, Mary Ellen	Social Science Analy	101	7	1	A0497	862q	87-01-02		Hindover-Turp
Lindsay, Caryl	Computer Programmer	114	7	1	A0490	959q	86-07-01		Soyang
Lindstrom, Jodie	Secretary (Typing)	150	5	1	A0379	893q	86-06-10		Soyang

Quarterly Inventory

DEPARTMENT OF ADMINISTRATIVE SCIENCES
REPORT: QUARTERLY INVENTORY

REPORT DATE: 03/10/88

PAS PO#	Cost	Vendor	Received	Issue	Description Location	Serial#
1 1111	\$ 1000.00	IBM	11-11-11	ADAMS	PD-JR I-270	11111
222 2222	\$ 2000.00	SONETWELL	- -22	BAKER	COMPUTER I-280	22222
333 333	\$ 1333.00	TEST	12-33-33	CARSON	TEST DESC I-0-1	3333

Requisition Status

DEPARTMENT OF ADMINISTRATIVE SCIENCES
REPORT: REQUISITION STATUS

REPORT DATE: 03/10/81
REVISION DATE:

REQ DESCRIPTION	DOC #	COSTCODE STOCK #	PO# REQUESTOR	VENDOR
- - 0				
- - 0			ms. sue cooper	
- - 0				
- - 0			james	central point software
- - 0				
- - 0				
- - 0				
- - 0				
- - 0			lyons	montroy bay computerworks
- - 0				
- - 0	5204-9140	BMC31	7520-00-240-2417	Joelison
Tape Dispenser, 1"				Ready Supply
- - 0	5219-9664	BMC31		
Report to Judy Harano, Naval Education & Training				Federal Express
- - 0	5221-7506	RLPER	85-W-4828	
Pyral Visuals				Pyral Applications
- - 0	5233-7508	RLPER	85-Y-1587	
Cable to connect IBM-PC to Daisywriter Printer				Computerland

PAGE 1

APPENDIX E
ADMINISTRATIVE SCIENCES (AS)
DATA BASE REPORTING SYSTEM
PROGRAMMER'S MANUAL

TABLE OF CONTENTS

	Page
I. BACKGROUND -----	78
II. DATA BASE ADMINISTRATOR -----	73
III. SYSTEM DESIGN -----	79
A. PRIMARY DESIGN GOALS -----	79
B. PROCESSING LOGIC -----	79
IV. APPLICATION LANGUAGE -----	81
V. SCREEN INPUT/OUTPUT MANAGEMENT -----	81
VI. FILES -----	83
A. PERFORM FILES -----	83
B. ERROR AND MESSAGE FORMS -----	84
C. FORMS -----	85
D. REPORTS -----	86
E. MENUS -----	87
F. TABLES -----	87
VII. DATA MANAGEMENT -----	88
VIII. AS SYSTEM REQUIREMENTS -----	89
A. REFERENCES -----	89
B. SOFTWARE -----	89
C. HARDWARE -----	90

I. BACKGROUND

The Administrative Sciences (AS) Data Base Reporting System (the AS System) is an interactive, menu driven data base management system. This system is used to input, edit and store the U.S. Naval Postgraduate School's Administrative Sciences Department's financial data (i.e., the AS Department's OPTAR, data relative to the AS Department's indirect cost and research accounts, and the Department's equipment inventory) and to create financial reports. This manual is not a tutorial of the AS System's application language.

II. DATA BASE ADMINISTRATOR

The AS Department's Management Assistant is the AS System's Administrator and Data Base Administrator (DBA). The duties of the DBA includes defining data tables and structures, data security, program and systems modifications, system documentation and user training. All request or suggestions for changes and major problems must be referred to the System's Administrator.

III. SYSTEM DESIGN

The AS System performs data manipulation and report generation, and has been designed along these two functional paths. Appendix F, the AS System's data flow diagram details the two functional paths. Prototyping was used; first perform the data manipulation for one table and the report generation for one report, then use similar logic for the other tables and reports.

A. PRIMARY DESIGN GOALS

The following were the primary design goals for AS System:

- error detection and correction
- ease in modifying programs
- data entry editing
- ease in entering, storing and modifying data
- ease in creating reports
- ease in operating the system
- ease of adding follow-on features (i.e., spreadsheets, graphics, etc.)

In an attempt to accomplish the above goals, the majority of this System's modules deal with the interface between the user and the data, instead of computations upon the data. Due to these design goals, the System's structure chart, Appendix G, displays a great deal of higher level fan-out and minimal lower level fan-in.

B. PROCESSING LOGIC

The following is the standard processing logic of the perform files (modules):

1. Change the necessary K-Man environment variables.
2. Receive passed data from a calling module.

3. Determine if user wants to exit module. (Will be no on first entry into module.) If no - perform step 4. If yes - perform step 8.
4. Display and accept input from a menu.
5. Error check the menu input.
- 5a. Display and accept input from an error form and repeat step 5 (If menu entry was an error.).
6. Perform function of module or call a subordinate module.
7. Repeat step 3.
8. Ensure that the changed K-Man environmental variables are set to the default values.
9. Change the necessary variable to ensure that a blank appears at the calling menu's prompt.

IV. APPLICATION LANGUAGE

The application language used for the AS System is KnowledgeMan (K-Man), version 1.07; which is developed by Micro Data Base Systems, Inc., Lafayette, Indiana. KnowledgeMan is a database management system which is designed to operate on a microcomputer. The AS System uses the following KnowledgeMan capabilities:

- Data Management
- Screen Input/Output Management
- Printed Forms (Reports) Management
- Procedures

Future development of the AS System can accommodate the following:

- Statistical Analysis
- Spreadsheet Analysis
- Calculations
- Functions
- Graphics
- Integration with other financial packages; i.e. IFPS

V. SCREEN INPUT/OUTPUT MANAGEMENT

The AS System uses predefined forms for menus, data entry and data display. Menus and data entry/display forms prompt the user for entries. The AS System is designed for a novice user, therefore prompts and instructions are utilized instead of command entries. Each menu and data entry/display form also edits the user's input by using KnowledgeMan's "picture" capability. If a wrong entry is made, an error form is displayed that notifies the user of an error and prompts for a correct entry. Appendix B is a hierarchical chart of the AS System's menus and Appendix C contains each system menu.

KnowledgeMan's optional interactive forms painting component (K-Paint) was used to create the System's menus and entry/display forms. The K-Paint files are included with the AS System's K-Man files.

VI. FILES

The following file name extensions are used by the AS System:

- EXE -- a K-Man execute file
- ICF -- context file, which saves a former state of K-Man processing in an encrypted format so that it can be resumed later (menus and forms)
- IGU -- user/password security file (a K-Man file)
- INC -- include file (a K-Man file)
- IPF -- perform file, which holds a sequence of K-Man commands (except for forms and menus, the code for these files is contained in Appendix J)
- OVL -- K-Man overlay files
- TPL -- report templates (created with K-Report)

A. PERFORM FILES

The following are the AS System's perform files:

brwtable	outstrpt
crtrecrd	persdmen
dbmen	pfunddlt
deltrec1	pfundmen
deltrec2	pfundrpt
expenmen	pfundupd
incommen	phistdlt
indirdlt	phistmen
indirmen	phistrpt
indirupd	phistupd
invendlt	prprtmen
invenmen	purchdlt
invenrpt	purchmen
invenupd	purchupd

mainmen	purrtmen
optardlt	reprtmen
optarmen	requisrpt
optarupd	travlmen
otherdlt	tvlexdlt
othermen	tvlexupd
otherupd	updreocrd

Naming convention:

- *.ipf -- (* = function performed)
- *men.ipf -- (This file displays a menu and perform a selected option. * = function selected or table requested)
- *dlt.ipf -- (This file is required to delete a record from a table. * = table's name)
- *rpt.ipf -- (This file creates a report. * = report's name)
- *upd.ipf -- (This file is required to update a record in a table. * = table's name)

The above files were created with a text editor. Listings of the perform files are contained in Appendix I.

B. ERROR AND MESSAGE FORMS

The following are the AS System's error and message forms:

- delerfrm(.icf & .ipf)
- erlindir(.icf & .ipf)
- er2indir(.icf & .ipf)
- eroinven(.icf & .ipf)
- erooptar(.icf & .ipf)
- eropfund(.icf & .ipf)
- erophist(.icf & .ipf)
- erotvlex(.icf & .ipf)
- errorfrm(.icf & .ipf)

Naming convention:

- ero*.(icf or .ipf) -- (* = table's name)

The above files were created, and may be viewed, by using K-Paint.

C. FORMS

The following are the AS System's forms:

deletfrm	tabldfrm
delqsfrm	trpldfrm
indelfrm	pfdelfrm
indirct	pfundcrt
indirdel	pfunddel
indirect	pfunding
inupdfrm	pfupdfrm
invcnrt	phdelfrm
invendel	phistcrt
inventor	phistdel
ivdelfrm	phistory
ivupdfrm	phupdfrm
opdelfrm	pudelfrm
optar	purchase
optarcrt	purchcrt
optardel	purchdel
opupdfrm	puupdfrm
otdelfrm	tvdelfrm
other	tvlexcrt
othercrt	tvlexdel
otherdel	tvlexp
otupdfrm	tvupdfrm

Naming convention:

All of the above files have an .icf or .ipf extension. The ".icf" files are saved for K-Paint usage. The ".ipf" files are performed by an AS System module (file).

- *crt. -- (A form on which a user enters data to create a record -- an entry form. * = table's name)
- *delfrm. -- (A form on which a user enters a field's value that is used to select which record may be deleted. * = table's name)
- *del. -- (A form that display's a record that may be deleted -- a deletion form. * = table's name)
- *.(icf & ipf)-- (A form that displays a record when a user elects to browse a table or update a record -- an entry form. * = table's name)
- *updfm. -- (A form on which a user enters a field's value that is used to select which records may be updated. * = table's name)

The above files were created by using K-Paint.

D. REPORTS

The following are the AS System's reports:

- invenrpt.tpl -- Quarterly Inventory
- outstrpt.tpl -- Outstanding TO(s)
- pfundrpt.tpl -- Personnel Funding
- phistrpt.tpl -- Personnel History
- requsrpt.tpl -- Requisition Status

The above files were created, and the structure may be viewed, by using K-Report.

E. MENUS

The following are the AS Systems menus:

expenfrm	pfundfrm
incomfrm	phistfrm
indirfrm	prprtfrm
invenfrm	purchfrm
mainfrm	purrtfrm
optarfrm	reprtfrm
otherfrm	travfrm
persdfrm	

Naming convention:

- *frm.(icf & ipf) -- (* = the subject table or purpose of menu; i.e. phistfrm is the menu for the phistory table)

The above files were created by using K-Paint.

F. TABLES

The following are the tables for the AS System:

- indirect.itb -- Indirect Income
- inventor.itb -- Inventory Property
- optar.itb -- OPTAR Income
- other.itb -- Other Income
- pfunding.itb -- Personnel Funding Expenses
- phistory.itb -- Personnel History Expenses
- purchase.itb -- Purchase Expenses
- tvlexp.itb -- Travel Expenses

The above tables were created by using K-Man's command language.

VII. DATA MANAGEMENT

The AS System's data is organized into tables. Each field within each table has a specific size and type (numeric, string or logical). Each file has a "picture", which KnowledgeMan uses to edit a field's value. The formats of the AS System's tables are contained in Appendix J and the field definitions are contained in Appendix H. Because the AS System's users had previously used KnowledgeMan in an ad hoc query mode, and to decrease processing time, this is not a relational data base; there is a duplication of data between some tables.

User access may be limited to tables and fields within tables. The use of this data security capability is the responsibility of the DBA.

VII. AS SYSTEM REQUIREMENTS

A. REFERENCES

The following references are necessary for successfully programming the AS System:

- KnowledgeMan Reference Manual
- Interactive Forms Painting (K-Paint); Supplement #1 to the KnowledgeMan Reference Manual
- Full-Screen Text Processor (K-Text); Supplement #2 to the KnowledgeMan Reference Manual or another text editor
- Custom Report Generation (K-Report); Supplement #5 to the KnowledgeMan Reference Manual

The following references are helpful for successfully programming the AS System:

- Disk Operating System (version 2.1) by Microsoft Corp.
- The Beginner's Guide to KnowledgeMan
- Discovering KnowledgeMan; published by the Howard Sams Co., Indianapolis
- The Book of KnowledgeMan; by Gilbert M. Roeder

B. SOFTWARE

The following software is required for operating the AS System:

- DOS, version 2.1 -- The CONFIG.SYS file must have buffers set to at least 10. The AS System has buffers=11. Each additional buffer cost an additional 528 bytes of memory, but may result in faster processing.

Note -- A diskette has been provided to the DBA which contains DOS version 2.1 and the following commands in AUTOEXEC.BAT:

C:

SETCLOCK

PATH C:\AS\KMAN

CD C:\AS\SYSTEM

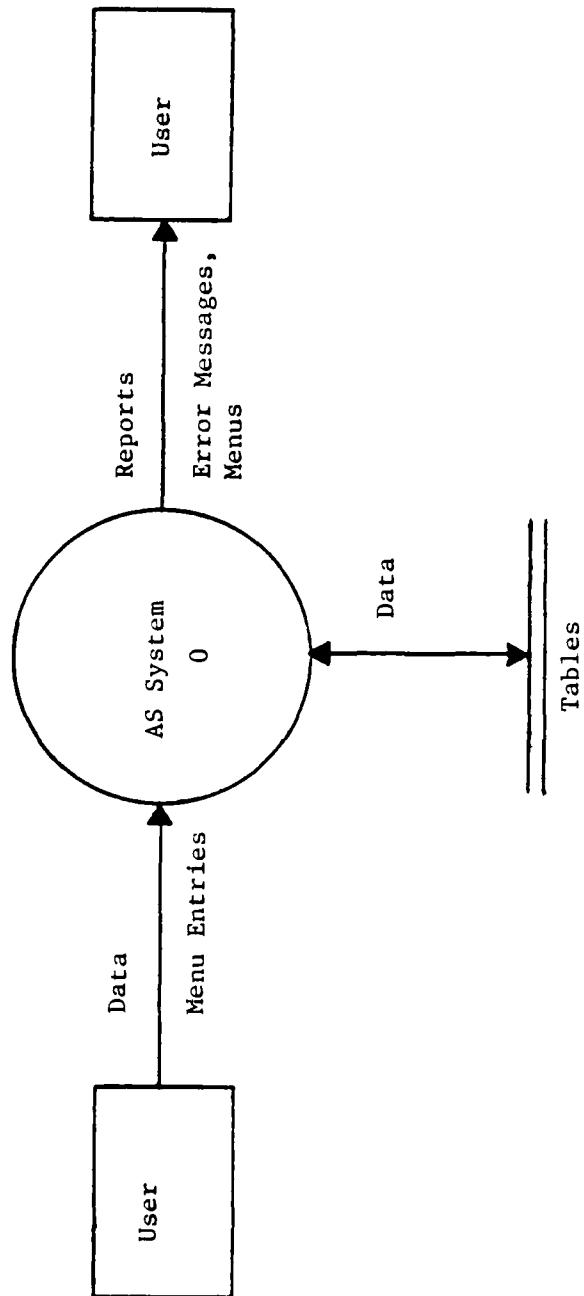
(With the current equipment, the AS System's files are stored in drive "C", sub-directory \AS\SYSTEM. KnowledgeMan, K-Paint, K-Report and K-Text are stored in "C" drive, sub-directory \AS\KMAN.)

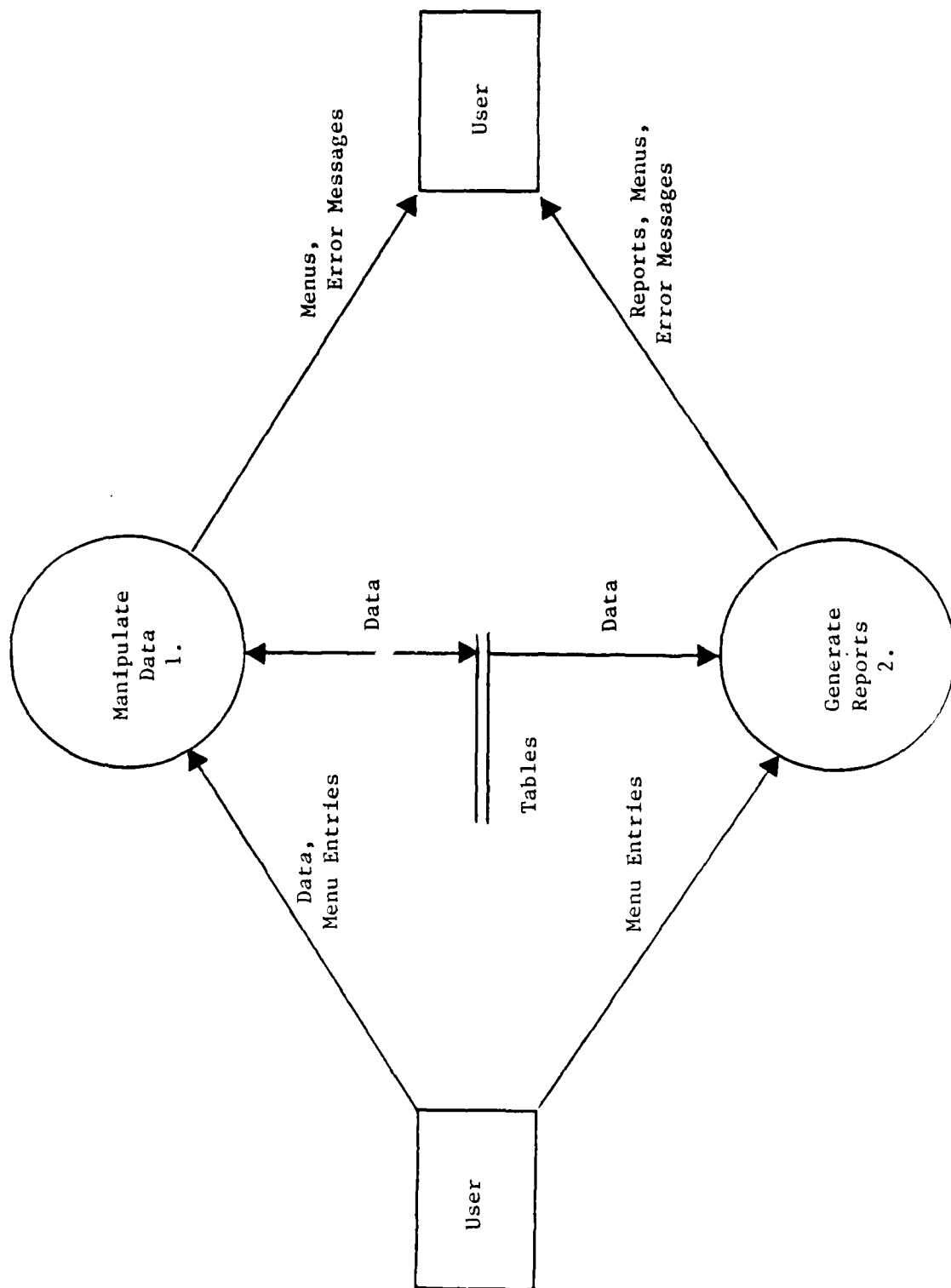
- K-Man, version 1.07 (PCDOS, IBM PC)
- K-Paint, version 1.07 (PCDOS, IBM PC)
- K-Report, version 1.07 (PCDOS, IBM PC)
- K-Text, version 1.07 (PCDOS, IBM PC) or another text editor (Kedit was used to create this system's perform files)

C. HARDWARE

- Minimum RAM of 192K
- Minimum mass disk storage of 500K

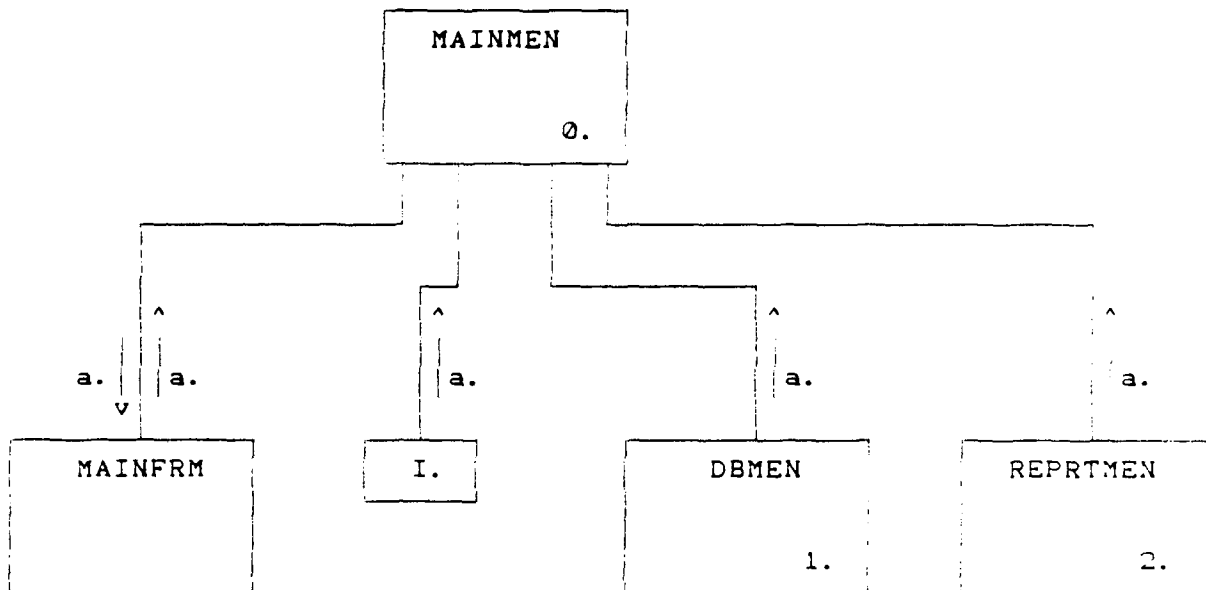
APPENDIX F
DATA FLOW DIAGRAM



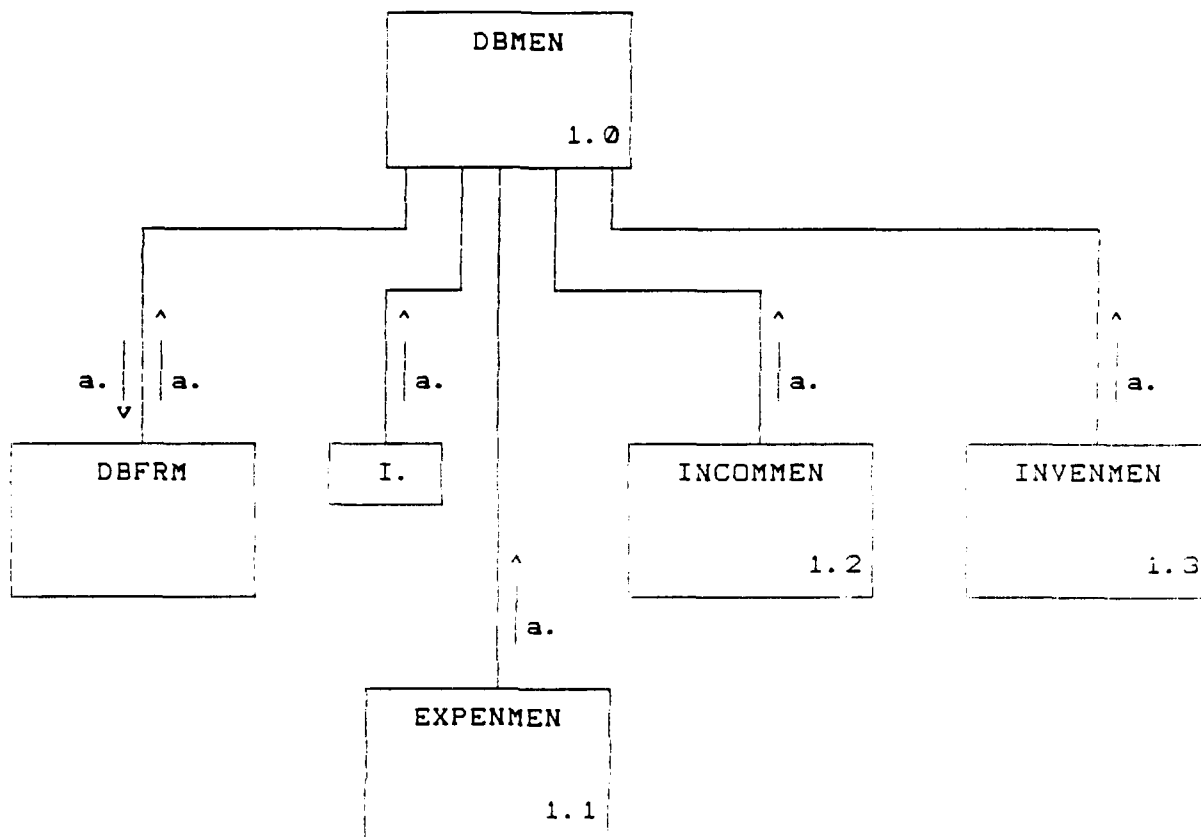


APPENDIX G STRUCTURE CHART

This appendix contains the structure chart of the AS System's perform files (.IPF). All modules are numbered, except the menus and forms. The modules that are called by several other modules are connected via a small box which contains a roman numeral. All modules are called conditionally.



DATA: a. FORMANS



DATA: a. FORMANS

AD-A168 841

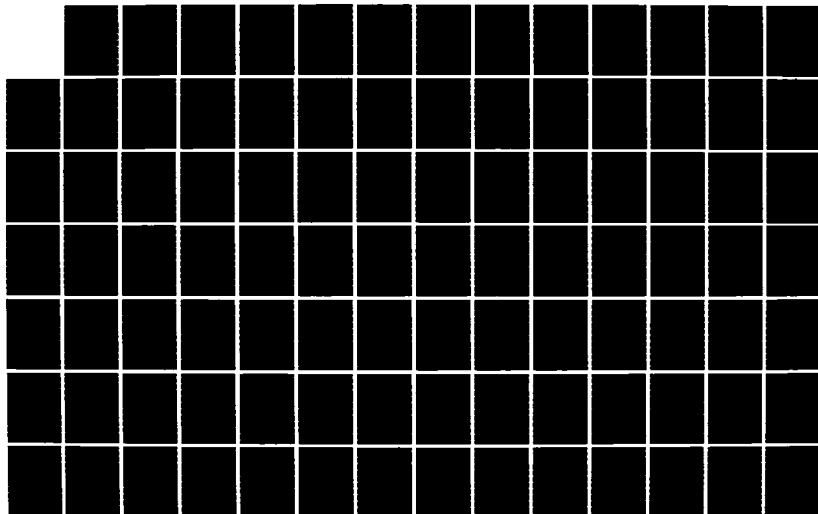
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SYSTEM: SOME EXPERIE. (U) NAVAL POSTGRADUATE SCHOOL
MONTEREY CA R L BOOKER 27 MAR 86

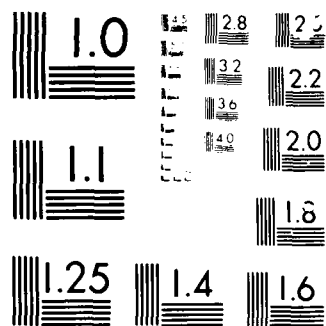
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UNCLASSIFIED

F/G 9/2

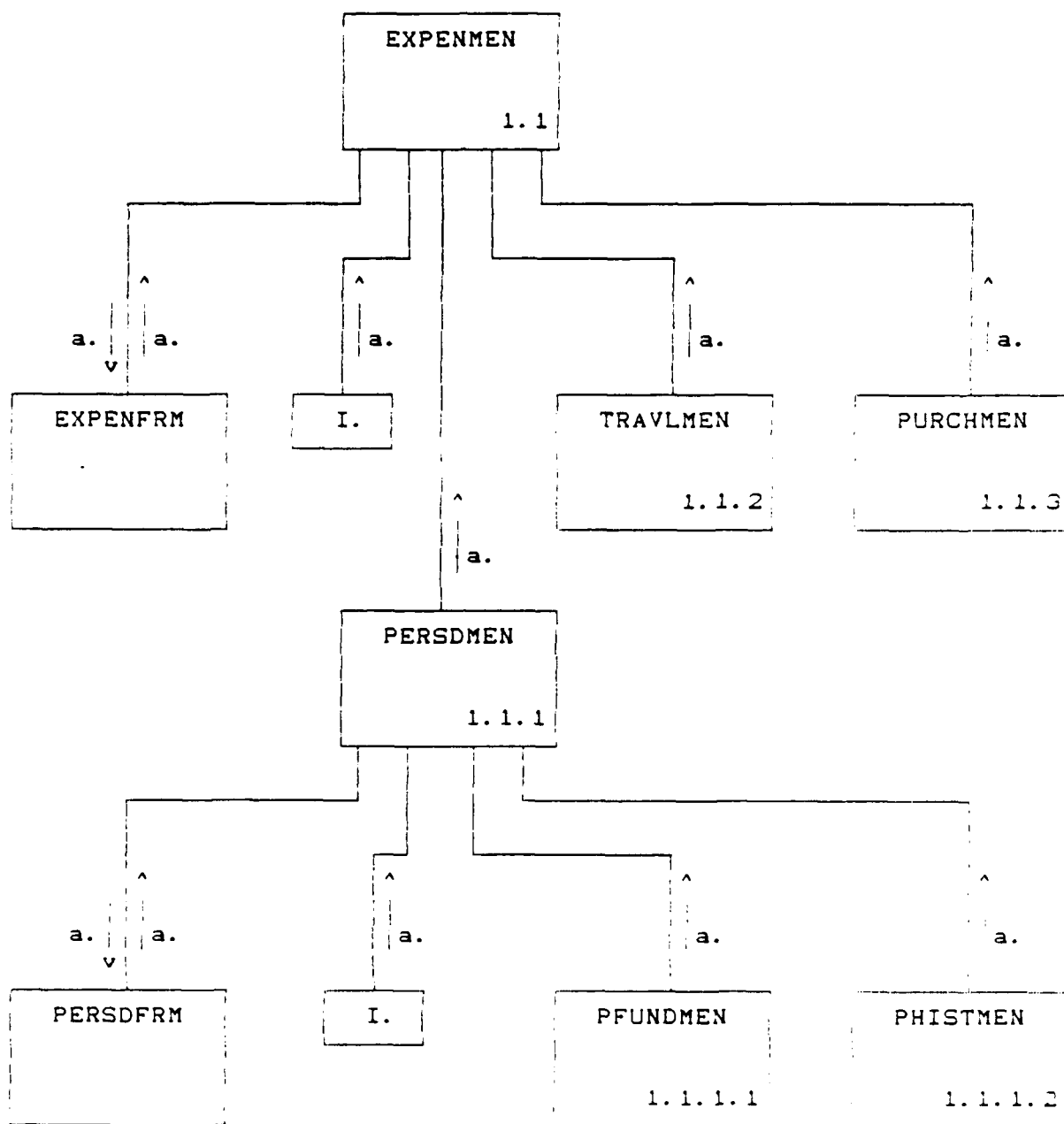
NL



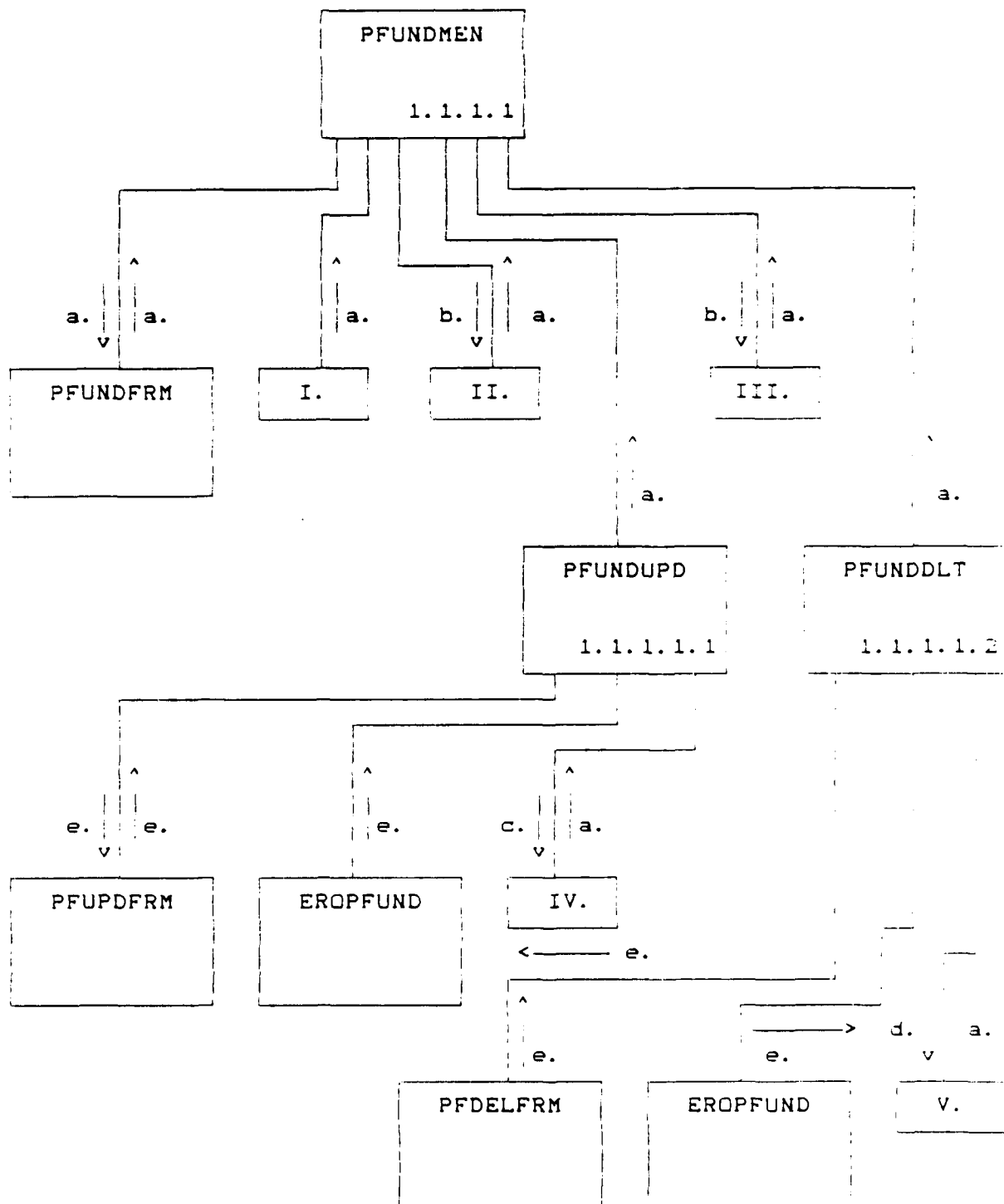


MICROGRAPH

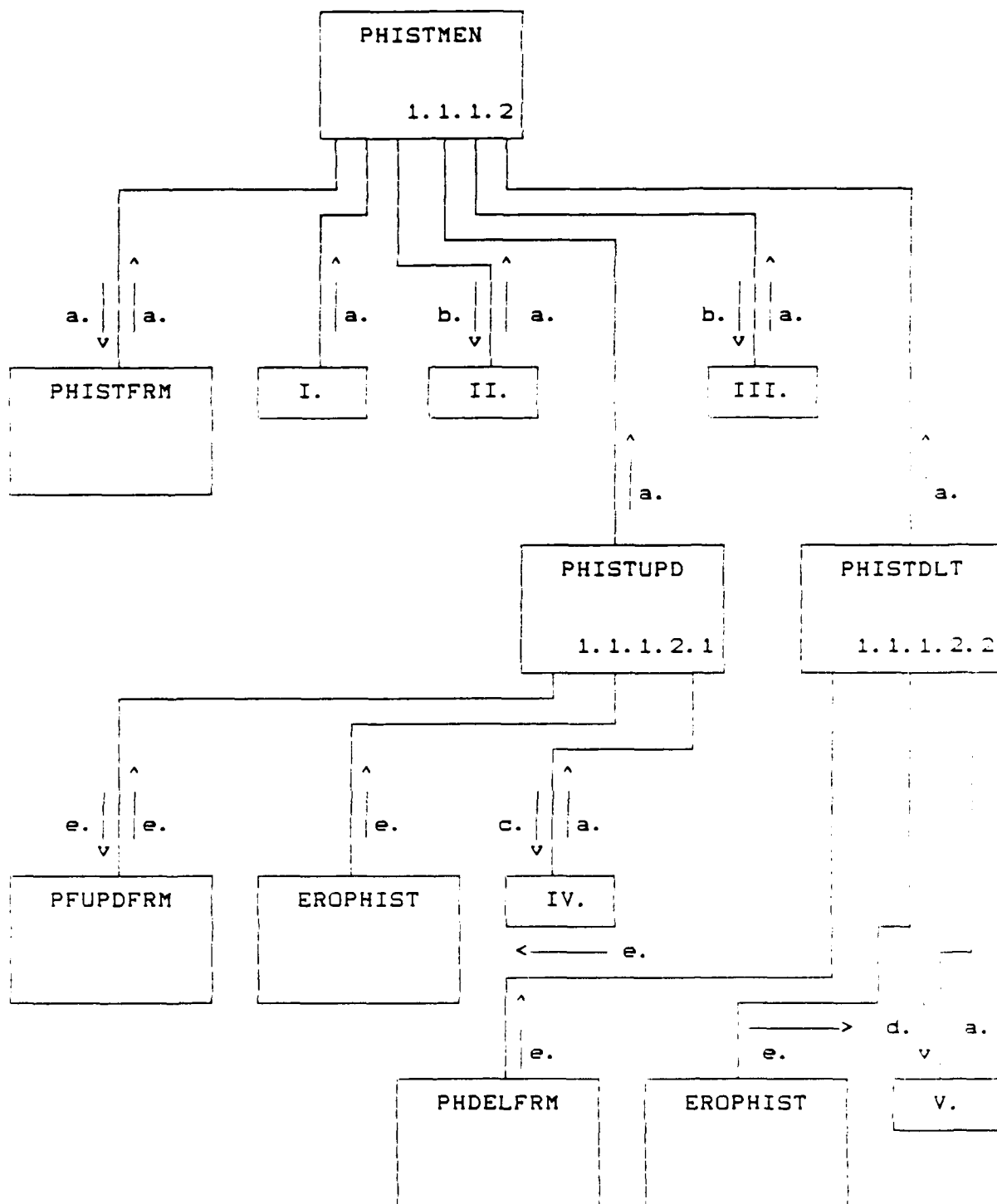
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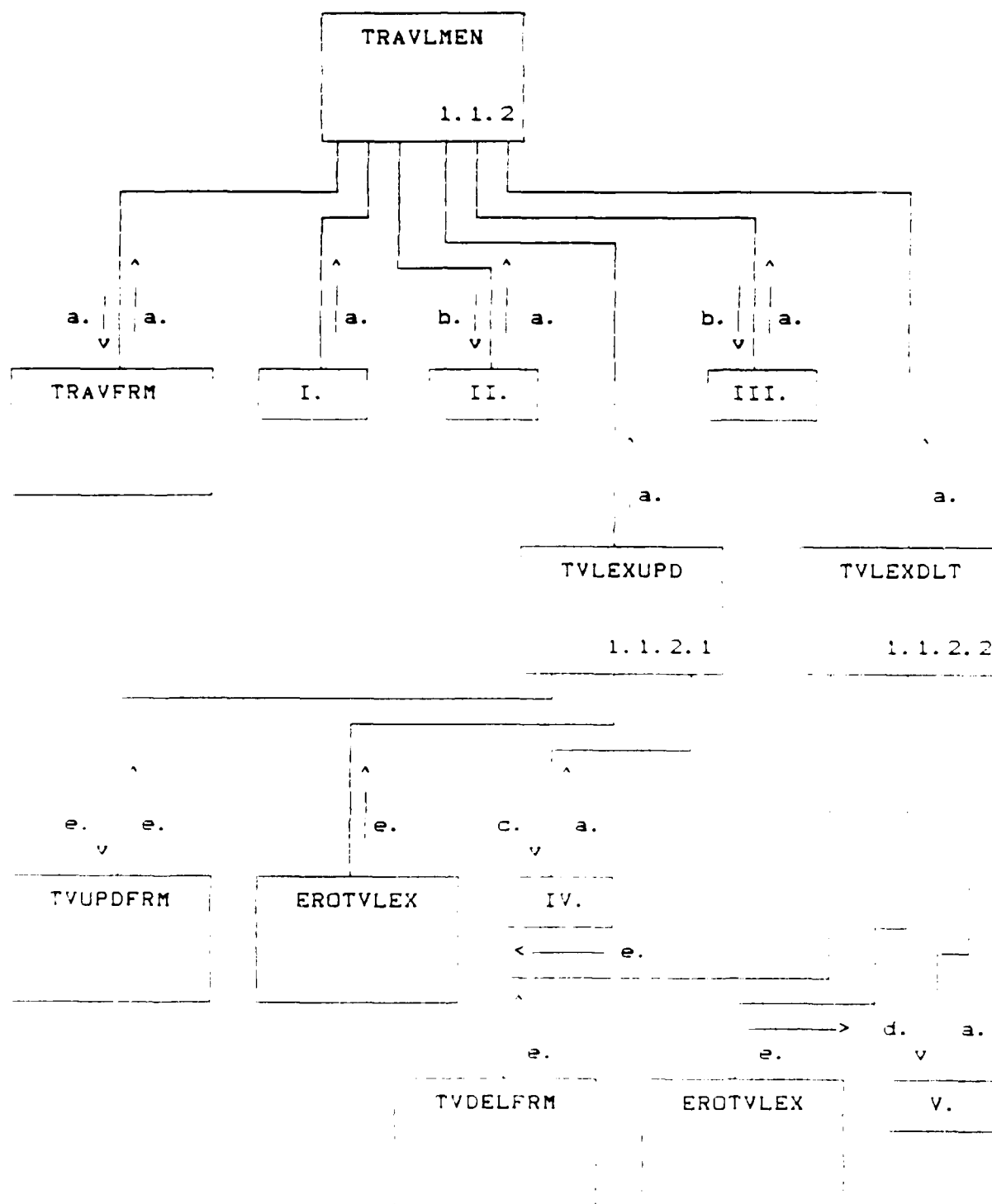
DATA: a. FORMANS



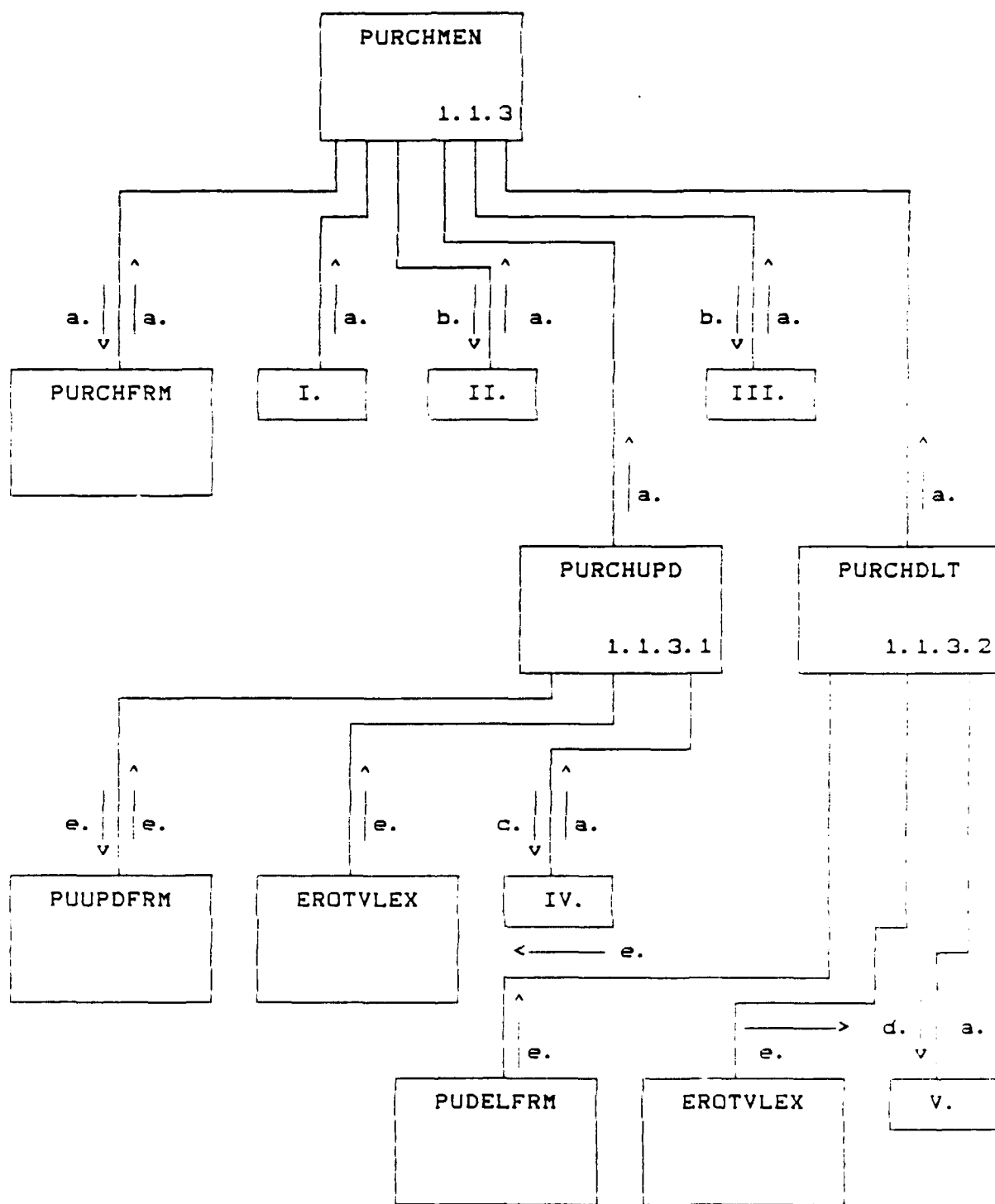
DATA: a. FORMANS; b. TABLE; c. TABLE, UPDATVAR, COND;
d. TABLE, PASSVAR, PASSCOND; e. ENTRYONE, ENTRYTWO



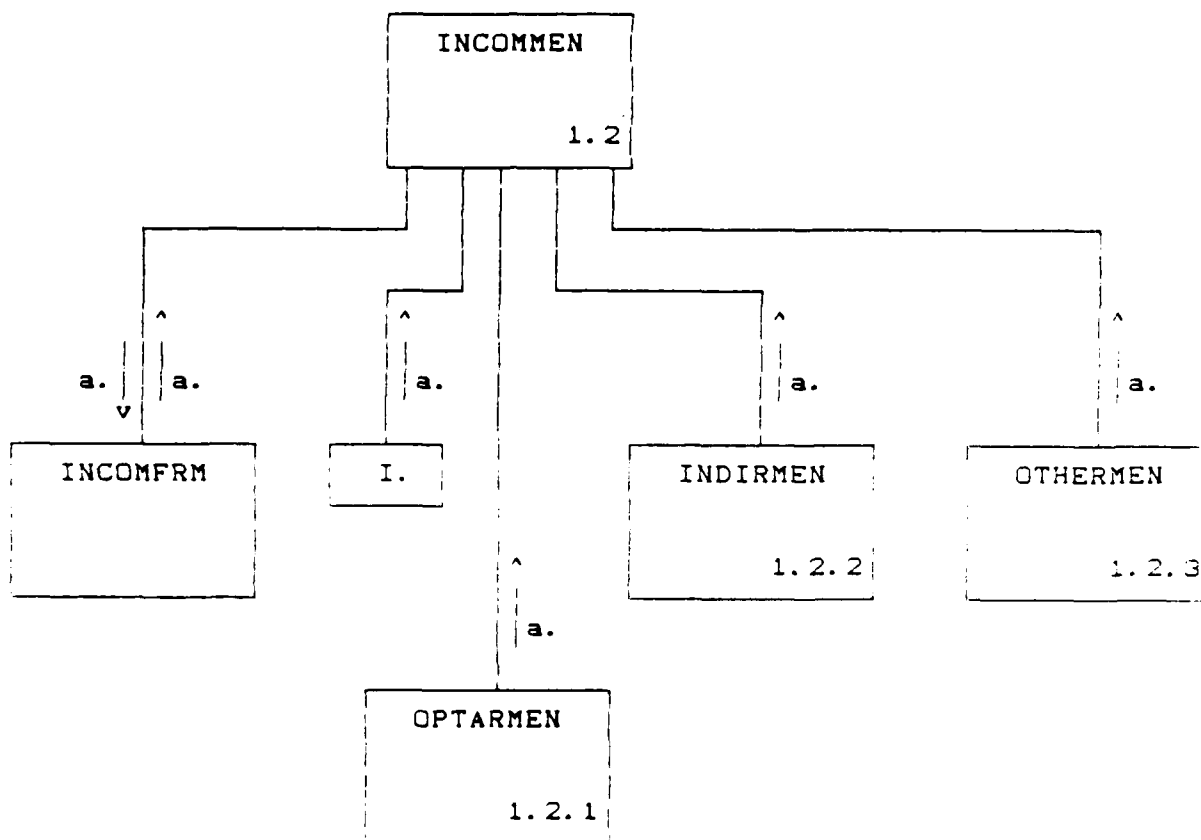
DATA: a. FORMANS; b. TABLE; c. TABLE, UPDATVAR, COND;
d. TABLE, PASSVAR, PASSCOND; e. ENTRYONE



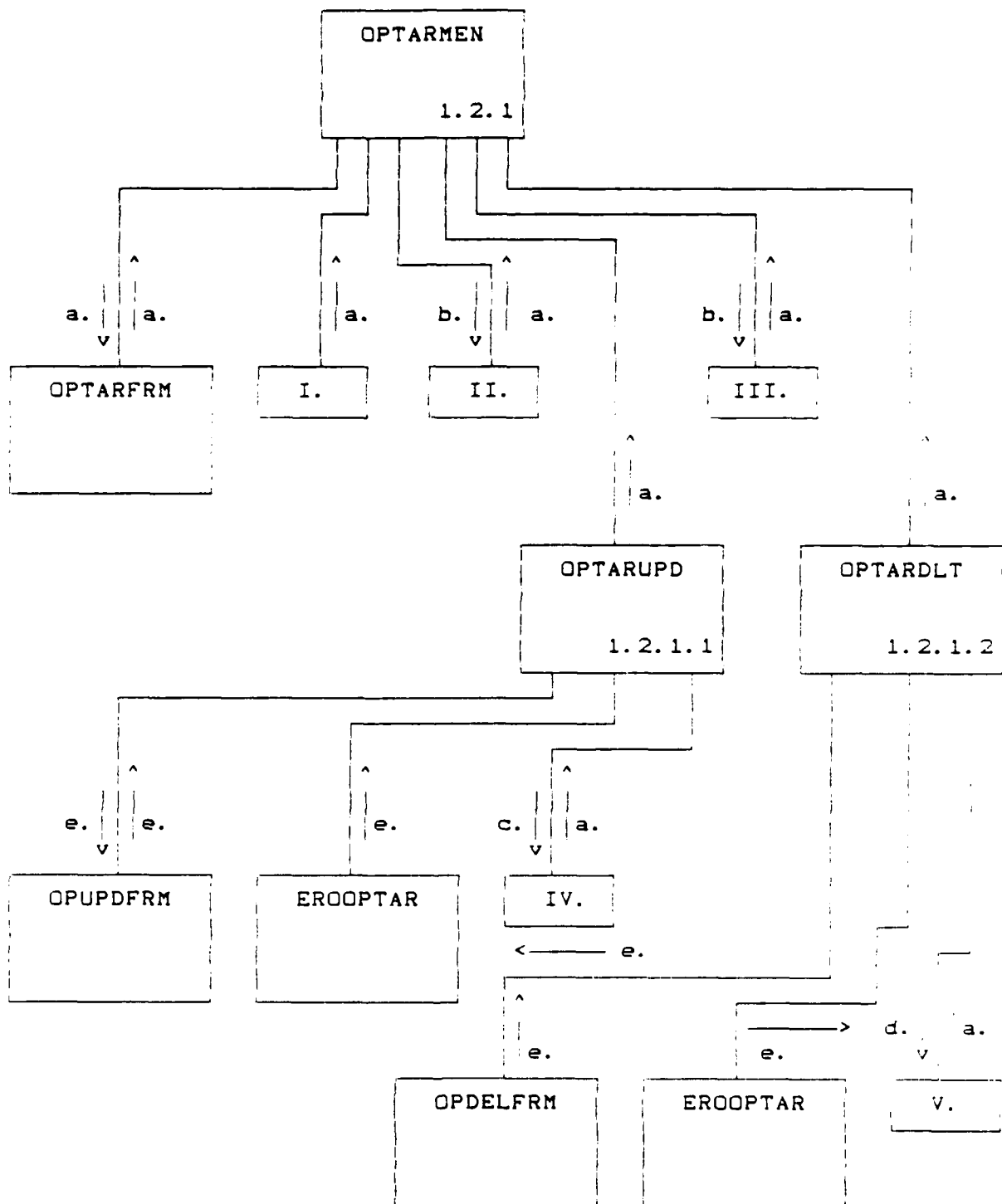
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d. TABLE, PASSVAR, PASSCOND; e. ENTRYONE



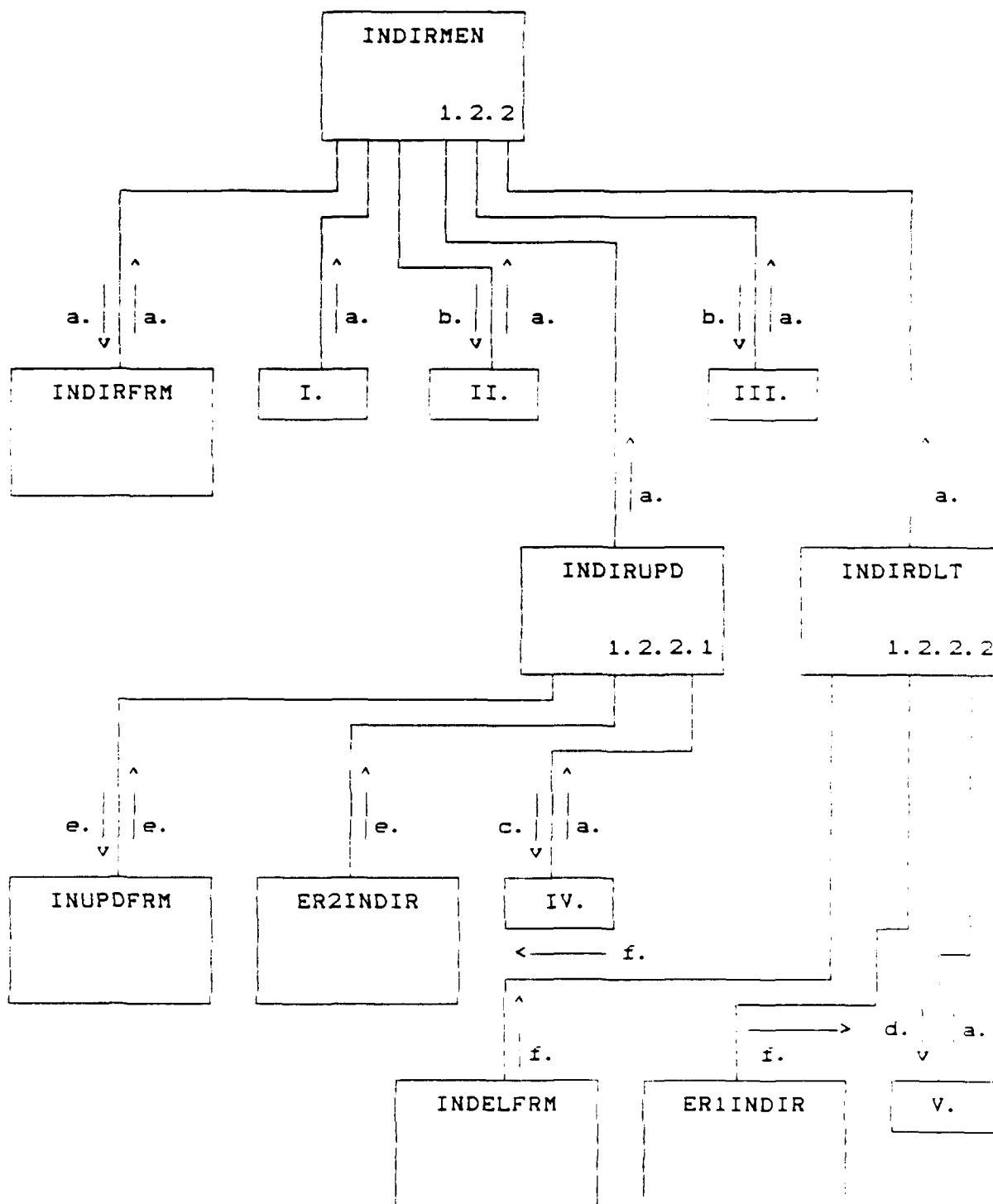
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d. TABLE, PASSVAR, PASSCOND; e. ENTRYONE

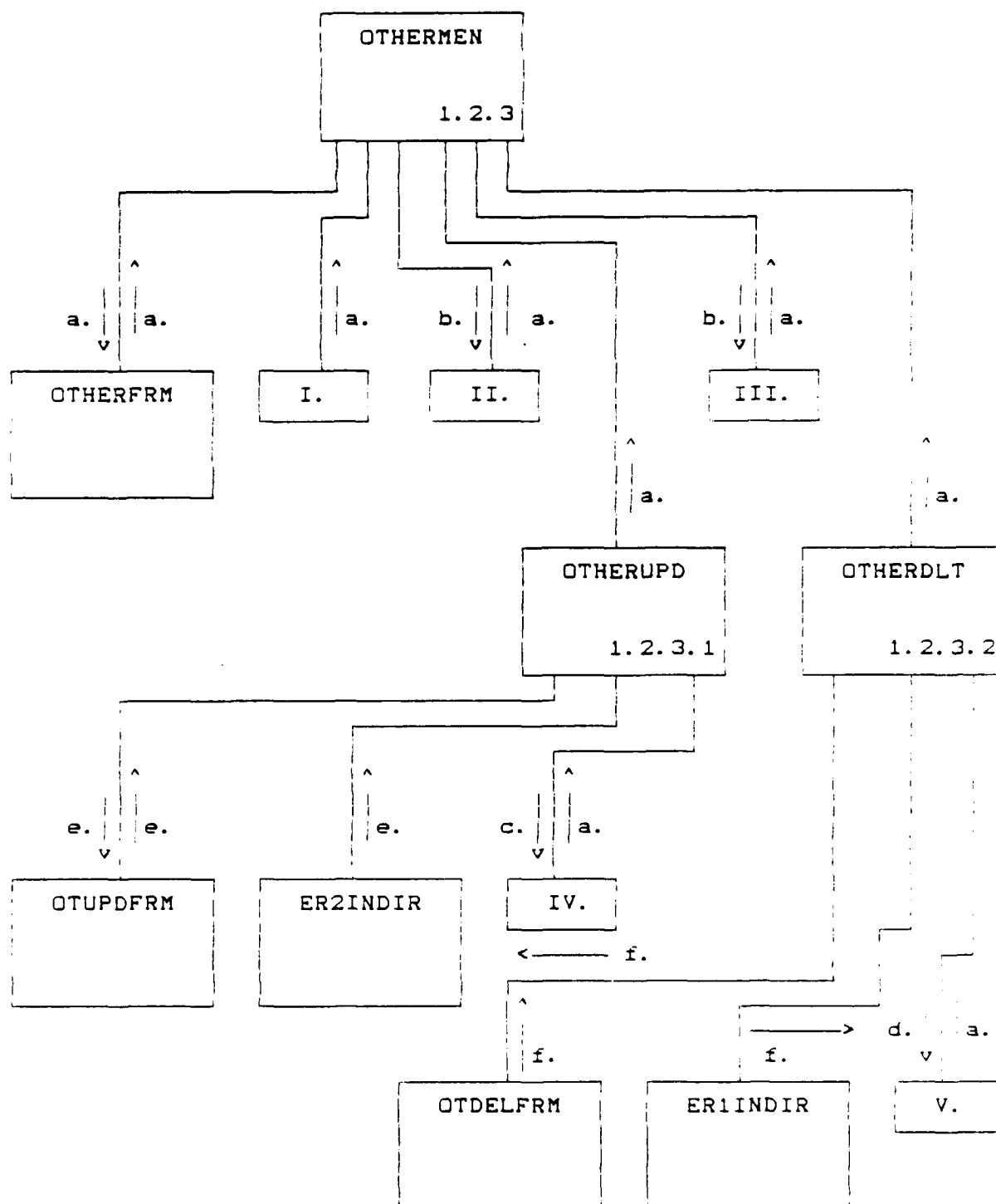


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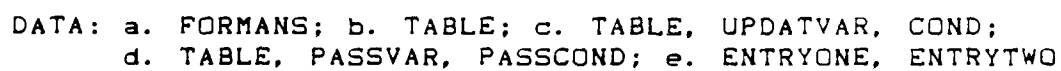


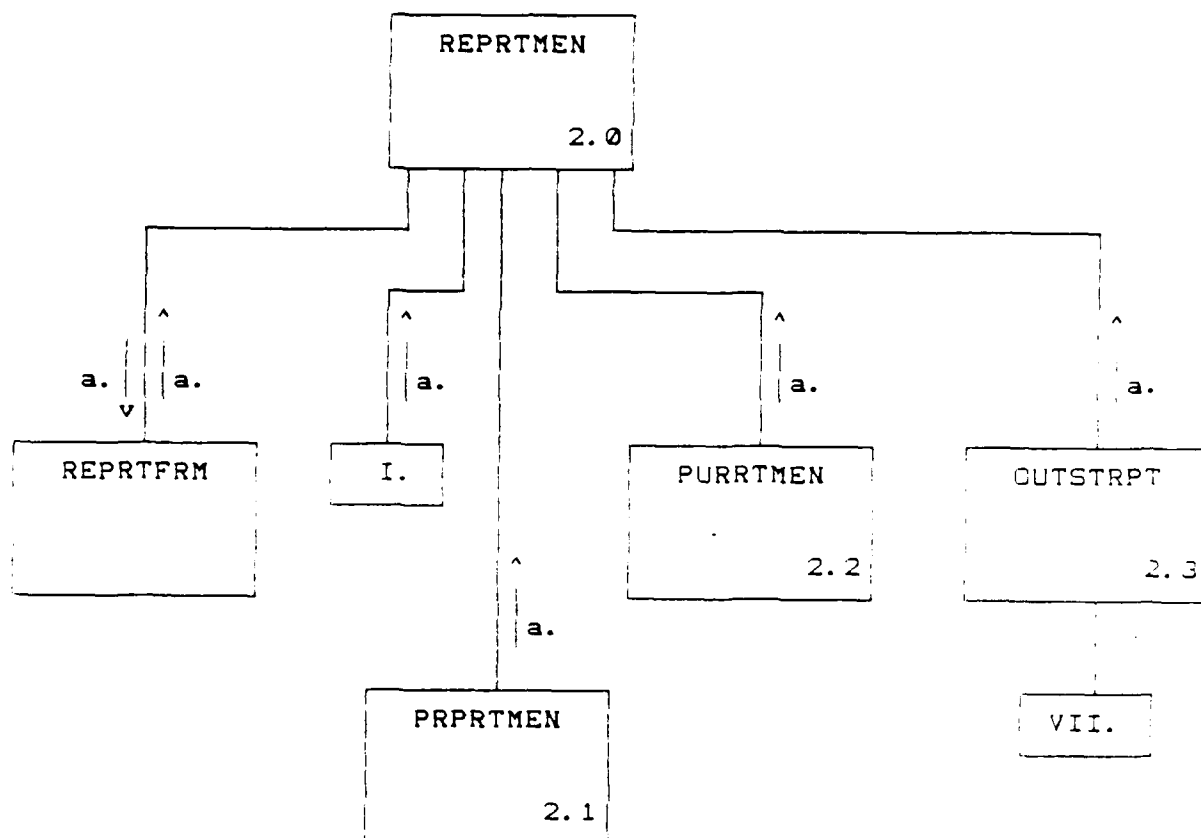
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d. TABLE, PASSVAR, PASSCOND; e. ENTRYONE, ENTRYTWO



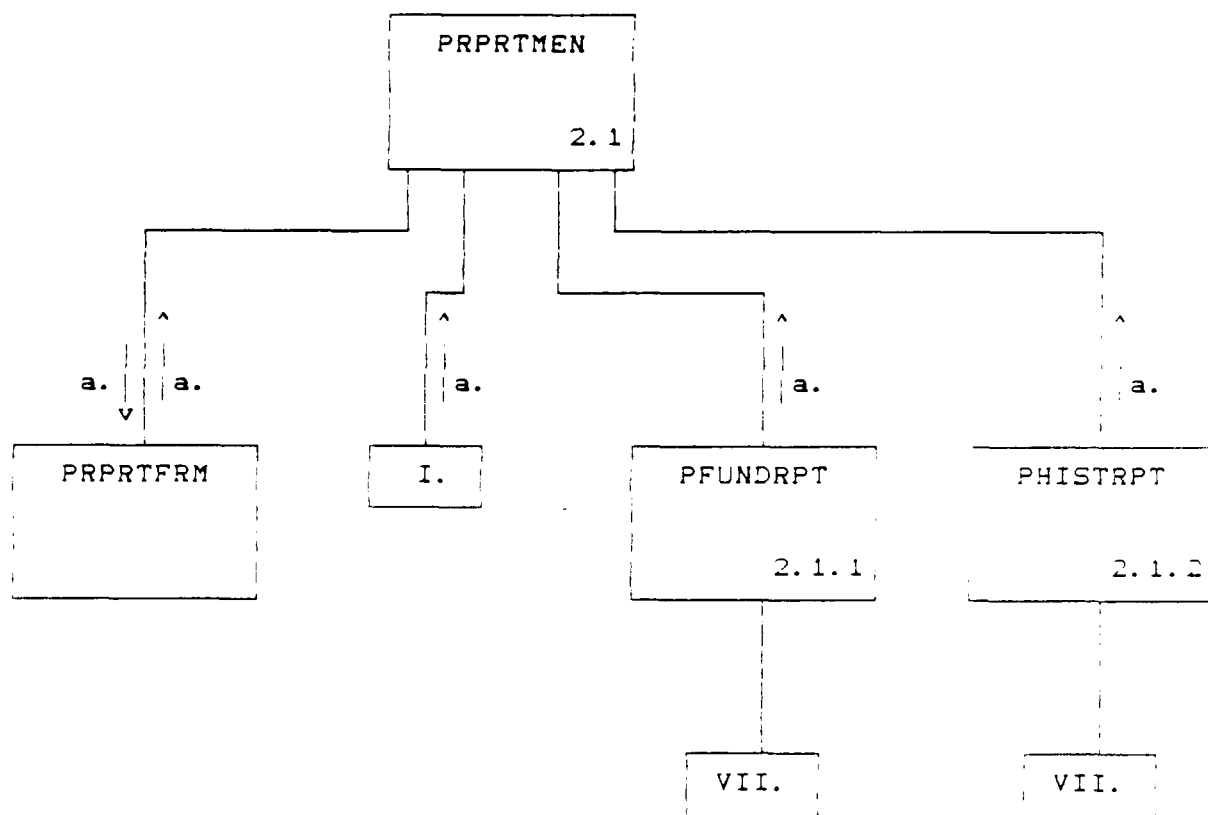


DATA: a. FORMANS; b. TABLE; c. TABLE, UPDATVAR, COND; d. TABLE, PASSVAR, PASSCOND; e. ENTRYONE, ENTRYTWO; f. ENTRYONE

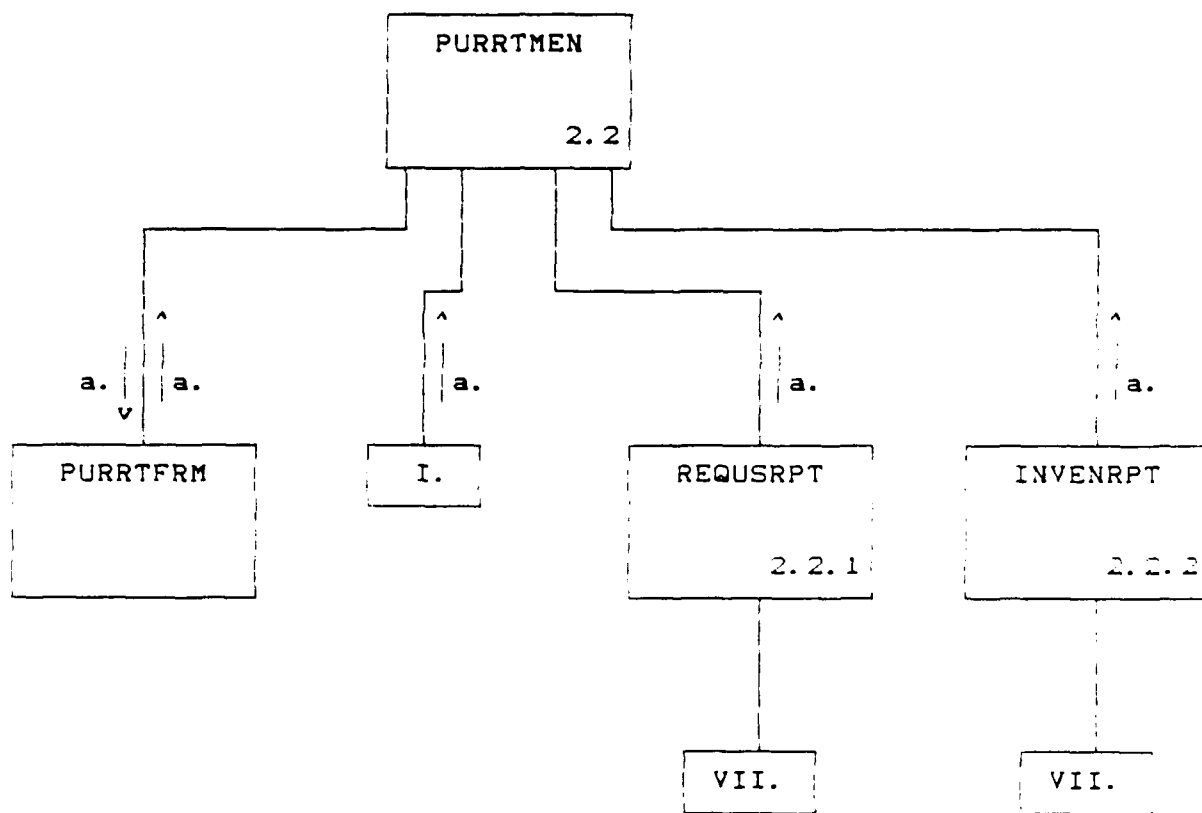




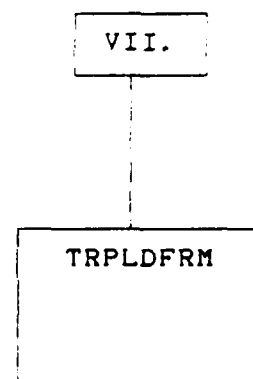
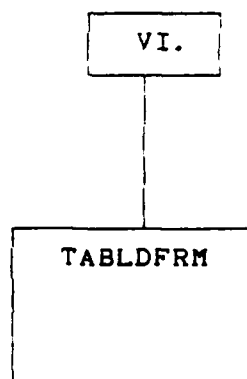
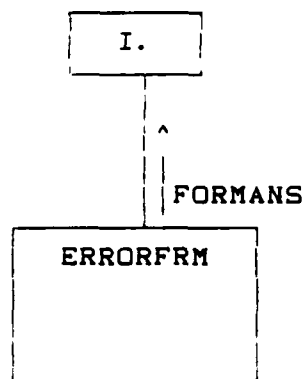
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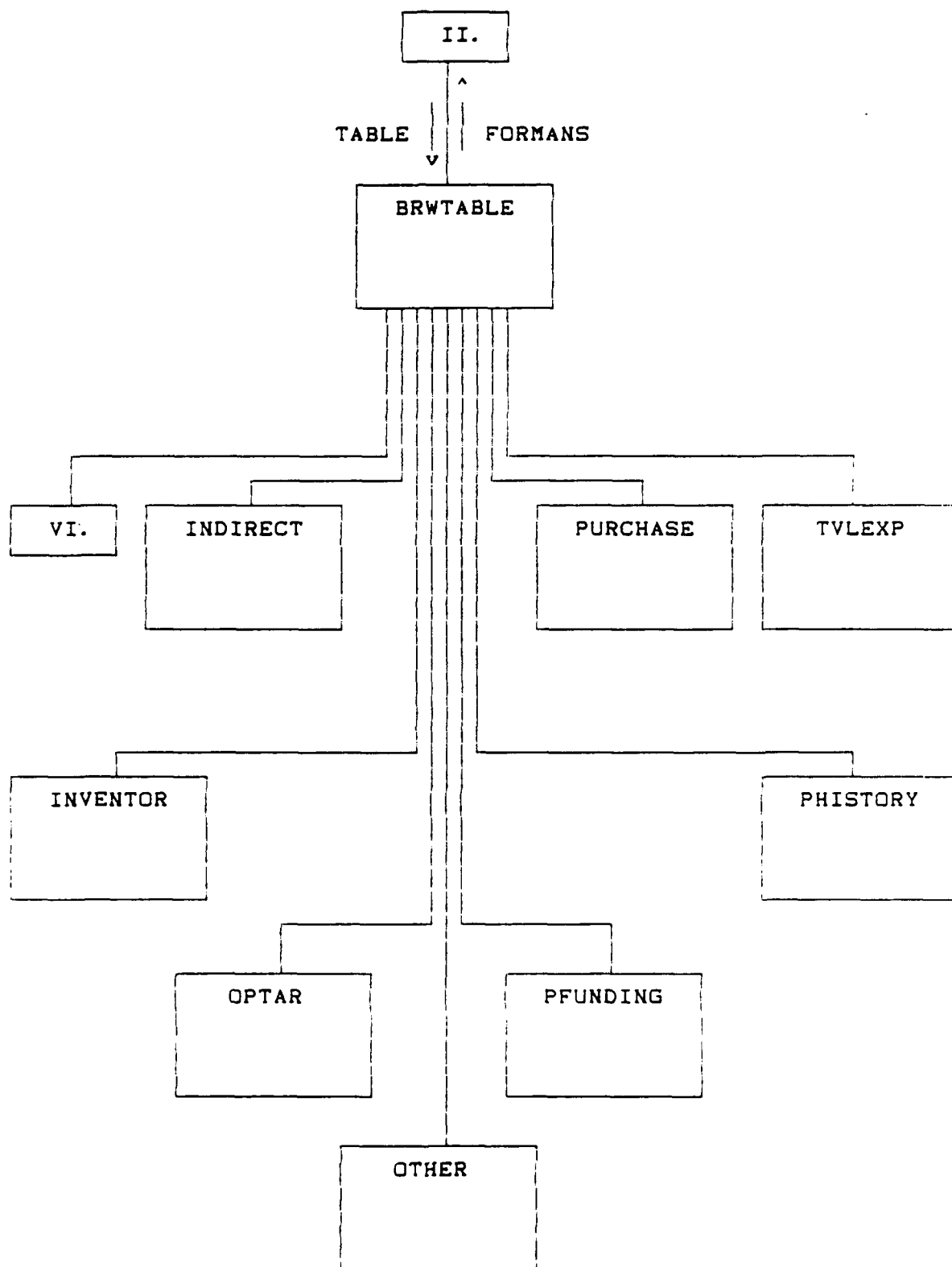


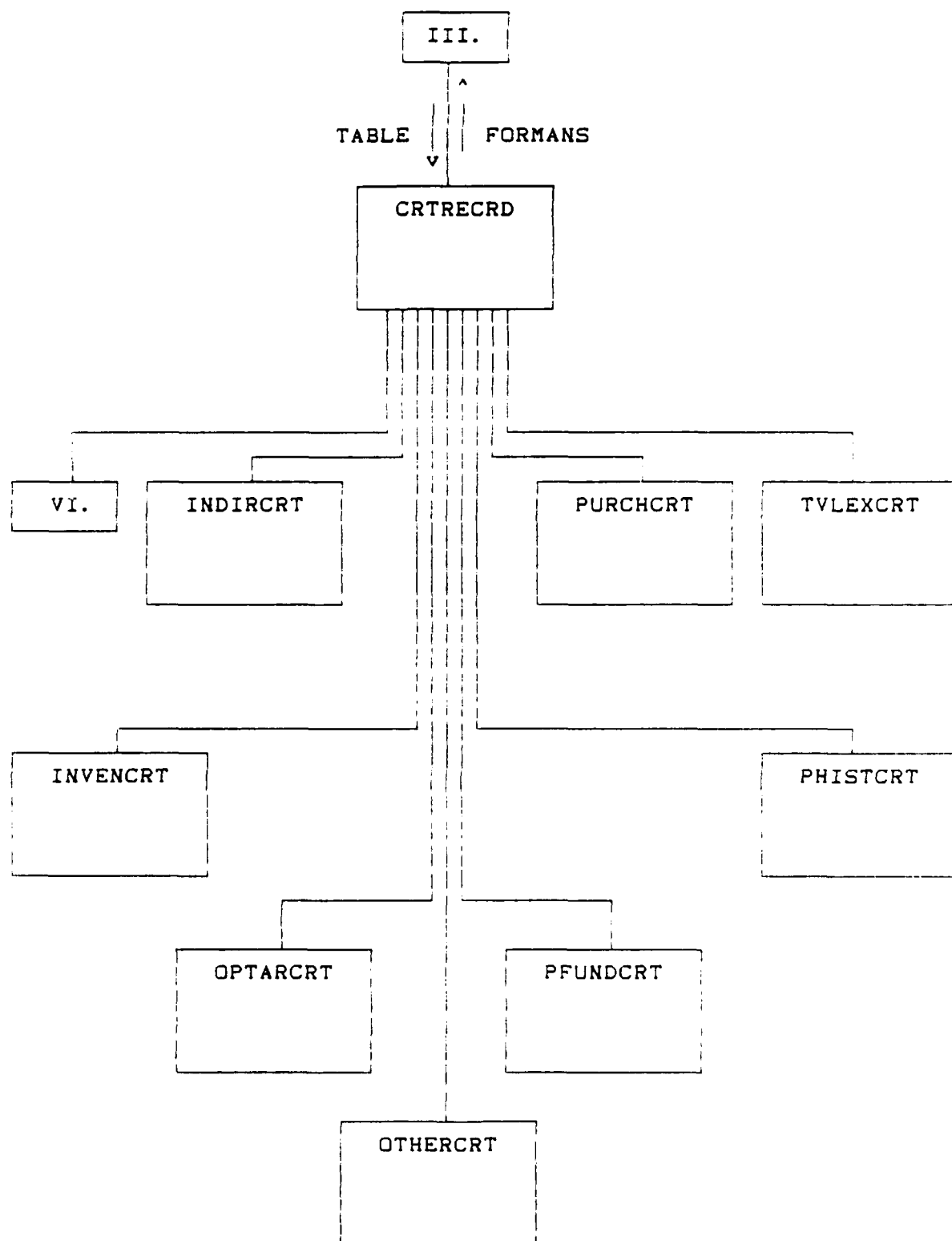
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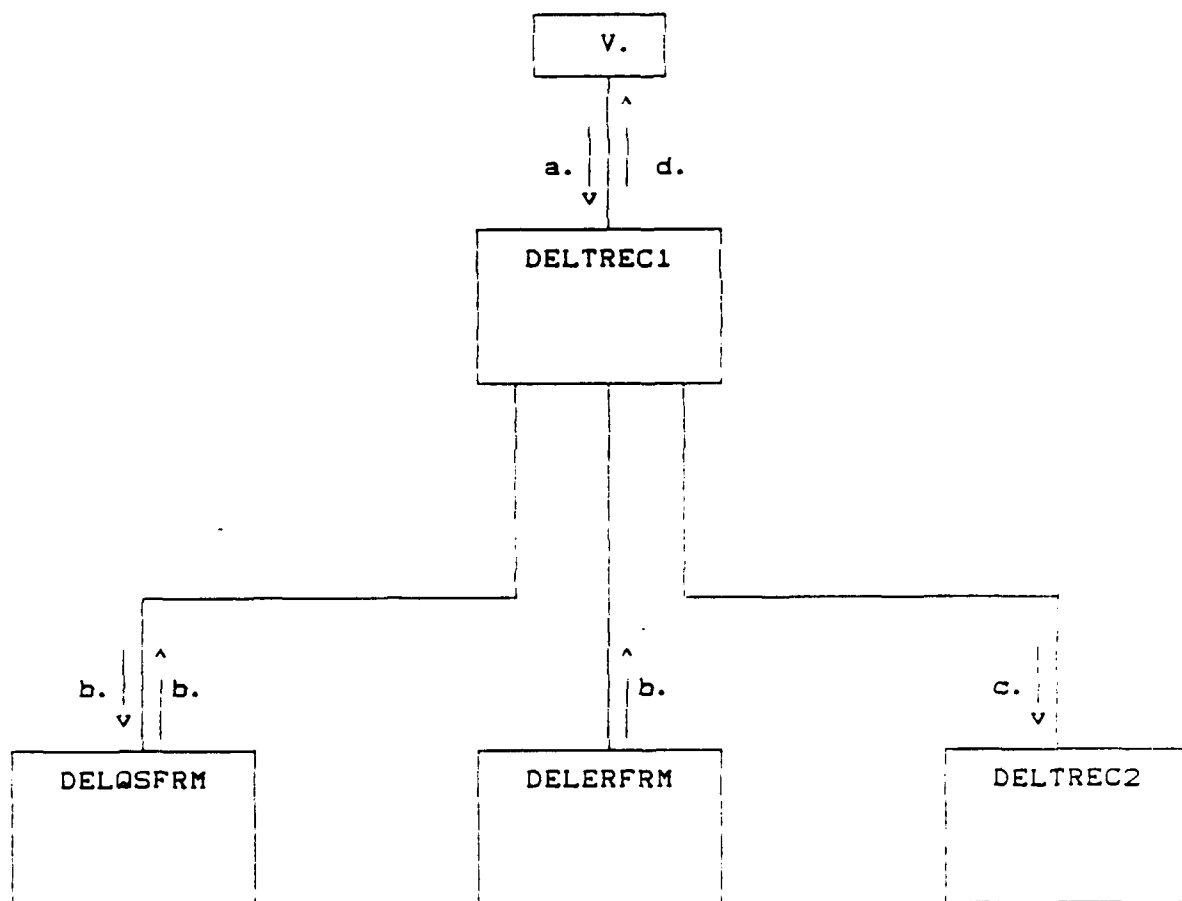


DATA: a. FORMANS

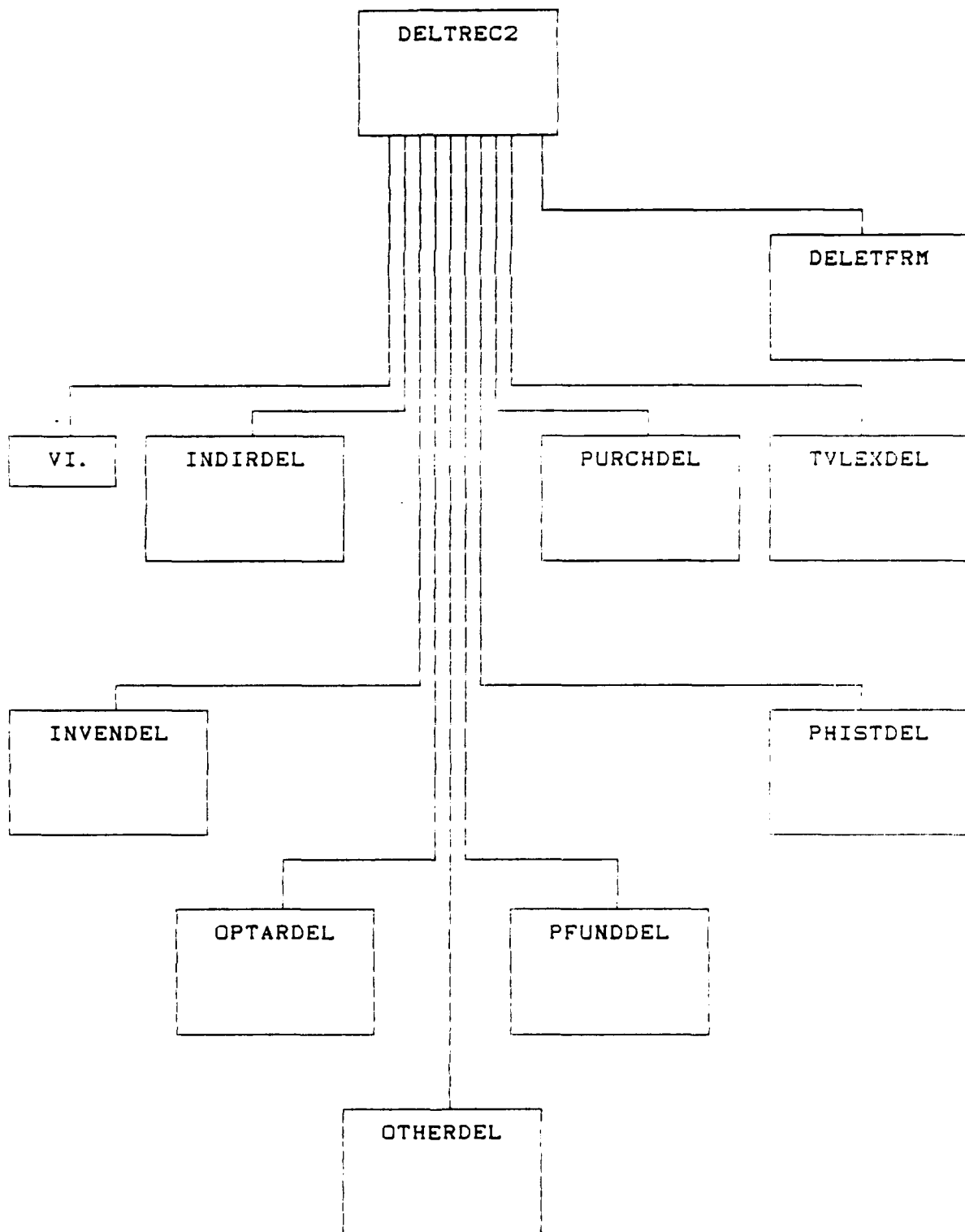


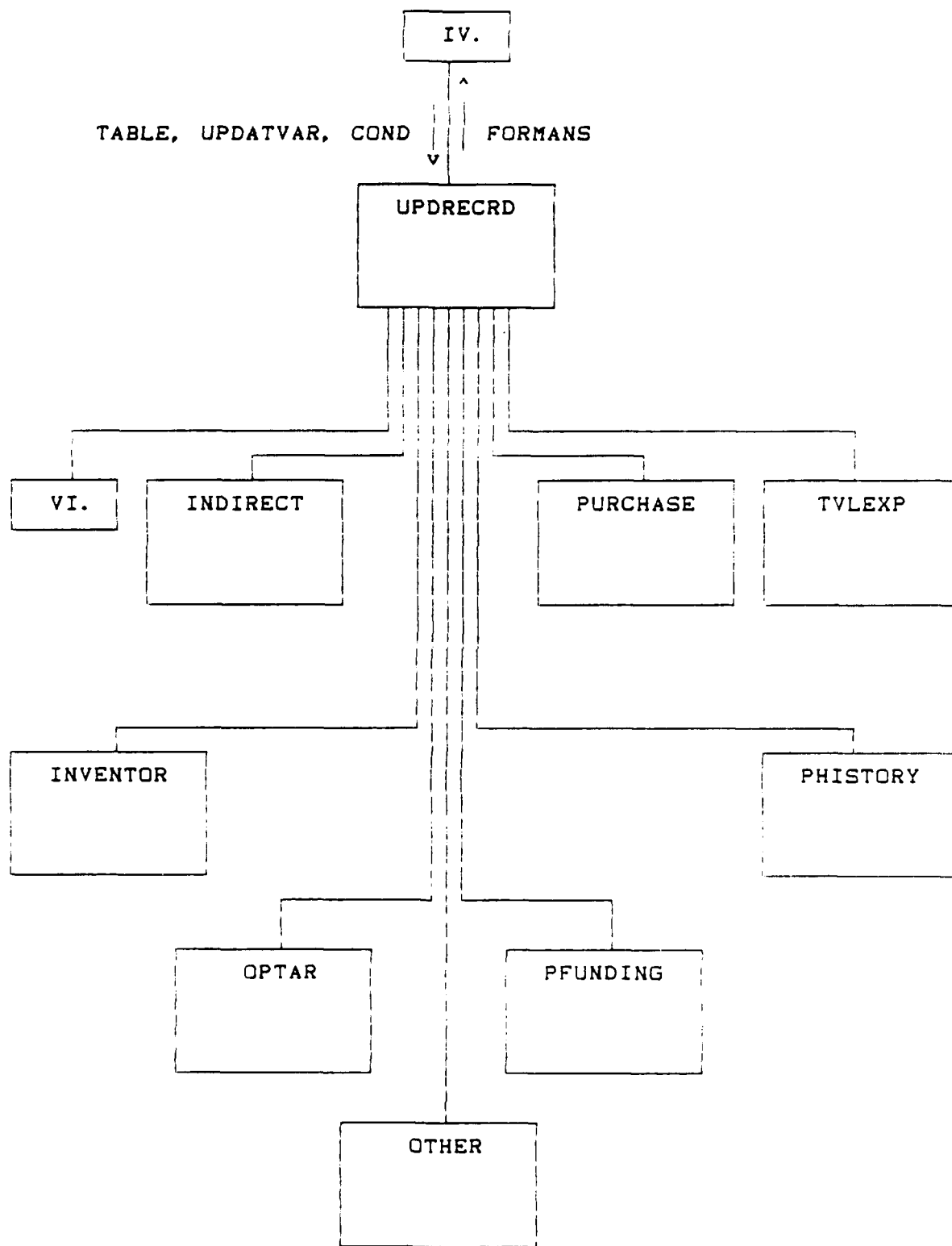






DATA: a. TABLE, PASSVAR, PASSCOND; b. DELTANS;
c. PASTABLE, DELTVAR, COND; d. FORMANS





APPENDIX B DATA DICTIONARY

DATA DICTIONARY

Format of elements: Name, allowable values, format description, files in which the element is used (.IPF files unless noted), and read and write access (DBA has table matching access codes to individuals).

Allowable values; num = numeric, str = string, logic = logical.

Format; d = place holder for a digit or a sign.
r = placeholder for any ASCII character.
%5r = rrrrr; repeat the code the number of times as the number

COND NUM 0, 1 or 2 A variable used to determine which condition has been selected by a user for either updating or deleting a record from a table. (0 = only 1 condition displayed by updating or deletion form, 1 = 1st condition was selected and 2 = 2nd condition was selected) DELTREC1, DELTREC2, INDIRUPD, INVENUPD, OPTARUPD, OTHERUPD, PFUNDUPD, PHISTUPD, PURCHUPD, TVLEXUPD, UPDRECRD

DELTANS STR (Y,N,y,n) A variable which determines if a user is sure that a record is required to be deleted. DELERFRM, DELERFRM.ICF, DELQSFRM, DELQSFRM.ICF, DELTREC1

DELTVAR STR or NUM A variable which is used to determine which selection criterion is used to delete a record. (DELTVAR equals a specific field's value.) DELTREC2

ENTRYONE STR or NUM A variable which is updated by entering data onto to a update or deletion selection form or an error form. The only records that will be displayed contains a field's value that matches ENTRYONE. (i.e. ENTRYONE = "Smith" will only display records that contains LNAME = "Smith")
 ERLINDIR(.IPF & .ICF), ER2INDIR(.IPF & .ICF),
 EROINVEN(.IPF & .ICF), EROPFUND(.IPF & .ICF),
 EROPTAR(.IPF & .ICF), EROPHIST(.IPF & .ICF),
 EROTVLEX(.IPF & .ICF),

 INDELFRM(.IPF & .ICF), INDIRDLT, INDIRUPD,
 INUPDFRM(.IPF & .ICF),

 INVENDLT, INVENUPD, IVDELFRM(.IPF & .ICF),
 IVUPDFRM(.IPF & .ICF),

 OPDELFRM(.IPF & .ICF), OPTARDLT, OPTARUPD,
 OPUPDFRM(.IPF & .ICF),

 OTDELFRM(.IPF & .ICF), OTHEHDLT, OTHERUPD,
 OTUPDFRM(.IPF & .ICF),

 PFDELFRM(.IPF & .ICF), PFUNDHLT, PFUNDUPD,
 PFUPDFRM(.IPF & .ICF),

 PHDELFRM(.IPF & .ICF), PHISTHLT, PHISTUPD,
 PHUPDFRM(.IPF & .ICF),

 PUDELFRM(.IPF & .ICF), PURCHHLT, PURCHUPD,
 PUUPDFRM(.IPF & .ICF),

 TVDELFRM(.IPF & .ICF), TVLEXHLT, TVLEXUPD,
 TVUPDFRM(.IPF & .ICF)

ENTRYTWO STR or NUM A variable which is updated by entering data onto to a update or deletion selection form or an error form. The only records that will be displayed contains a field's value that matches ENTRYONE (i.e. ENTRYONE = "Smith" will only display records that contains LNAME = "Smith"). Used if there are two fields which may be used for updates or deletions.)
 ER2INDIR(.IPF & .ICF), EROINVEN(.IPF & .ICF),
 EROPFUND(.IPF & .ICF), EROOPTAR(.IPF & .ICF),

INDIRUPD, INUPDFRM(.IPF & .ICF),

INVENDLT, INVENUPD, IVDELFRM(.IPF & .ICF),
 IVUPDFRM(.IPF & .ICF),

OPDELFRM(.IPF & .ICF), OPTARDLT, OPTARUPD,
 OPUPDFRM(.IPF & .ICF),

OTHERUPD, OTUPDFRM(.IPF & .ICF),
 PFDELFRM(.IPF & .ICF), PFUNDDEL, PFUNDUPD,
 PFUPDFRM(.IPF & .ICF)

FORMANS STR (1, 2, 3, 4 or 5) The displayed menu's option that is selected by the user.

BRWTABLE, CRTRECRD, DBFORM(.IPF & .ICF), DBMEN, DELTREC1,
 ERRORFRM(.IPF & .ICF),
 EXPENFRM(.IPF & .ICF), EXPENMEN,
 INCOMFRM(.IPF & .ICF), INCOMMEN,

INDIRDLT, INDIRFRM(.IPF & .ICF), INDIRMEN, INDIRUPD,

INVENDLT, INVENFRM(.IPF & .ICF), INVENMEN, INVENRPT,
 INVENUPD, MAINFRM(.IPF & .ICF), MAINMEN,

OPTARDLT, OPTARFRM(.IPF & .ICF), OPTARMEN, OPTARUPD,
 OTHERDLT, OTHERFRM(.IPF & .ICF), OTHERMEN, OTHERUPD,
 OUTSTRPT, PERSDMEN,

PFUNDDEL, PFUNDFRM(.IPF & .ICF), PFUNDMEN, PFUNDRPT,
 PFUNDUPD,

PHISTDLT, PHISTFRM(.IPF & .ICF), PHISTMEN, PHISTRPT,
 PHISTUPD, PRPRTMEN,

PURCHDLT, PURCHFRM(.IPF & .ICF), PURCHMEN, PURCHUPD,

PURRTFRM(.IPF & .ICF), PURRTMEN, REPRTFRM(.IPF & .ICF),
 REPRTMEN, REQUSRPT,

TRAVFRM(.IPF & .ICF), TRAVLMEN, TVLEXDLT, TVLEXUPD,
 UPRECRD

INDIRECT.ASAPPRO NUM \$ddddd.dd
INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF
Read Access : A.....
Write Access : A.....

INDIRECT.AUTH NUM \$ddddddd.dd Total amount authorized
for research project.
INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

INDIRECT.COSTCODE STR \$5r Costcode or Job Order #.
INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF, UPDRECRD
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

INDIRECT.DEPTIC NUM \$ddddd.dd Amount anticipated for
indirect costs.
INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

INDIRECT.DOC# STR \$15r Document #.
INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF
Read Access : A.....
Write Access : A.....

INDIRECT.ENTRY NUM dd-dd-dd Date the entry is made.
INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

INDIRECT.ESTIMATE NUM \$ddddddd.dd Estimated cost of research.
INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP



INDIRECT.EXPIRE NUM dd-dd-dd Date of expiration of funds.
DELTREC2, INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

INDIRECT.ICRECD NUM \$ddddd.dd Actual indirect costs re-
ceived from project.
INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

INDIRECT.MIPR# STR %15r MIPR# from acceptance docu-
ment.
INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

INDIRECT.PERIOD STR %20r Dates specified on proposal
for performance of research.
INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

INDIRECT.PRINCIPL STR %20r Last name of principal inves-
tigator.
BRWTABLE, INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF, UPDRECRD
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

INDIRECT.PROPOSAL STR %130r Title of proposal.
INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

INDIRECT.REF# STR %25r Reference # from acceptance document.

INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

INDIRECT.REMARKS STR %50r Remarks.

INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

INDIRECT.SEGMENT STR %6r Segment #

INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF

Read Access : A.....

Write Access : A.....

INDIRECT.SERIALS NUM dddd-dddd Serial #

INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF

Read Access : A.....

Write Access : A.....

INDIRECT.SPONSOR STR %40r Name of project sponsor.

INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

INDIRECT.STAFFLBR NUM \$ddddd.dd Total of support labor.

INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

INDIRECT.STATUS STR %25r Status of proposal.

INDIRECT.ITB, INDIRECT, INDIRECT.ICF, INDIRCRT,
INDIRCRT.ICF, INDIRDEL, INDIRDEL.ICF

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

INVENTOR.COST NUM \$ddddd.dd
 INVENTOR.ITB, INVENTOR, INVENTOR.ICF, INVCNCR,
 INVCNCR.ICF, INVENDEL, INVENDEL.ICF, INVENRPT.TPL
 Read Access : A.....
 Write Access : A.....

INVENTOR.DESCRPT STR 350r
 INVENTOR.ITB, INVENTOR, INVENTOR.ICF, INVCNCR,
 INVCNCR.ICF, INVENDEL, INVENDEL.ICF, INVENRPT.TPL
 Read Access : A.....
 Write Access : A.....

INVENTOR.ISSUE STR 325r
 INVENTOR.ITB, INVENTOR, INVENTOR.ICF, INVCNCR,
 INVCNCR.ICF, INVENDEL, INVENDEL.ICF, INVENRPT.TPL
 Read Access : A.....
 Write Access : A.....

INVENTOR.LOCATION STR 37r
 INVENTOR.ITB, INVENTOR, INVENTOR.ICF, INVCNCR,
 INVCNCR.ICF, INVENDEL, INVENDEL.ICF, INVENRPT.TPL
 Read Access : A.....
 Write Access : A.....

INVENTOR.PA# STR 36r
 BRWTABLE, DELTREC2, INVENTOR.ITB, INVENTOR, INVENTOR.ICF,
 INVCNCR, INVCNCR.ICF, INVENDEL, INVENDEL.ICF,
 INVENRPT.TPL, UPDRECRD
 Read Access : A.....
 Write Access : A.....

INVENTOR.PO# STR 39r
 INVENTOR.ITB, INVENTOR, INVENTOR.ICF, INVCNCR,
 INVCNCR.ICF, INVENDEL, INVENDEL.ICF, INVENRPT.TPL
 Read Access : A.....
 Write Access : A.....

INVENTOR.RECEIVED NUM dd-dd-dd
 INVENTOR.ITB, INVENTOR, INVENTOR.ICF, INVCNCR,
 INVCNCR.ICF, INVENDEL, INVENDEL.ICF, INVENRPT.TPL
 Read Access : A.....
 Write Access : A.....

INVENTOR.SERIAL# STR %12r
 DELTREC2, INVENTOR.ITB, INVENTOR, INVENTOR.ICF, INVENCRT,
 INVENCRT.ICF, INVENDEL, INVENDEL.ICF, INVENRPT.TPL,
 UPDRECRD
 Read Access : A.....
 Write Access : A.....

INVENTOR.VENDOR STR %40r
 INVENTOR.ITB, INVENTOR, INVENTOR.ICF, INVENCRT,
 INVENCRT.ICF, INVENDEL, INVENDEL.ICF, INVENRPT.TPL
 Read Access : A.....
 Write Access : A.....

OPTAR.ACTUAL NUM \$ddddd.dd Changes in authorized.
 OPTAR.ITB, OPTAR, OPTAR.ICF, OPTARCRT, OPTARCRT.ICF,
 OPTARDEL, OPTARDEL.ICF
 Read Access : A.....
 Write Access : A.....

OPTAR.AUTH NUM \$ddddd.dd Total amount authorized.
 OPTAR.ITB, OPTAR, OPTAR.ICF, OPTARCRT, OPTARCRT.ICF,
 OPTARDEL, OPTARDEL.ICF
 Read Access : ABCDEFGHIJKLMNOP
 Write Access : ABCDEFGHIJKLMNOP

OPTAR.DIFFER Virtual field : ((ACTUAL - AUTH))
 OPTAR.ITB, OPTAR, OPTAR.ICF, OPTARCRT, OPTARCRT.ICF,
 OPTARDEL, OPTARDEL.ICF
 Read Access : A.....

OPTAR.ENTRY NUM dd-dd-dd Date that record is entered.
 DELTREC2, OPTAR.ITB, OPTAR, OPTAR.ICF, OPTARCRT,
 OPTARCRT.ICF, OPTARDEL, OPTARDEL.ICF, UPDRECRD
 Read Access : ABCDEFGHIJKLMNOP
 Write Access : ABCDEFGHIJKLMNOP

OPTAR.RECEIVED NUM dd-dd-dd Date of latest authorization
 memo.
 BRWTABLE, DELTREC2, OPTAR.ITB, OPTAR, OPTAR.ICF, OPTARCRT,
 OPTARCRT.ICF, OPTARDEL, OPTARDEL.ICF, UPDRECRD
 Read Access : ABCDEFGHIJKLMNOP
 Write Access : ABCDEFGHIJKLMNOP

OPTAR.TACTUAL NUM \$ddddd.dd Changes in travel authorized.
OPTAR.ITB, OPTAR, OPTAR.ICF, OPTARCRT, OPTARCRT.ICF,
OPTARDEL, OPTARDEL.ICF
Read Access : A.....
Write Access : A.....

OPTAR.TAUTH NUM \$ddddd.dd Amount designated for travel.
OPTAR.ITB, OPTAR, OPTAR.ICF, OPTARCRT, OPTARCRT.ICF,
OPTARDEL, OPTARDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

OPTAR.TDIFFER Virtual field : ((TACTUAL - TAUTH))
OPTAR.ITB, OPTAR, OPTAR.ICF, OPTARCRT, OPTARCRT.ICF,
OPTARDEL, OPTARDEL.ICF
Read Access : A.....

OTHER.AUTH NUM \$ddddd.dd Amount authorized for
Department Expenditure.
OTHER.ITB, OTHER, OTHER.ICF, OTHERCRT,
OTHERCRT.ICF, OTHERDEL, OTHERDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

OTHER.COSTCODE STR 35r Costcode or Job Order #.
OTHER.ITB, OTHER, OTHER.ICF, OTHERCRT,
OTHERCRT.ICF, OTHERDEL, OTHERDEL.ICF, UPDRECRD
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

OTHER.ENTRY NUM dd-dd-dd Date the entry is made.
OTHER.ITB, OTHER, OTHER.ICF, OTHERCRT,
OTHERCRT.ICF, OTHERDEL, OTHERDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

OTHER.EXPIRE NUM dd-dd-dd Date of expiration of funds.
DELTREC2, OTHER.ITB, OTHER, OTHER.ICF, OTHERCRT,
OTHERCRT.ICF, OTHERDEL, OTHERDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

OTHER.PRINCIPL STR %20r Last name of principal
investigator.
BRWTABLE, OTHER.ITB, OTHER, OTHER.ICF, OTHERCRT,
OTHERCRT.ICF, OTHERDEL, OTHERDEL.ICF, UPDRECRD
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

OTHER.PROPOSAL STR %130r Title of proposal.
OTHER.ITB, OTHER, OTHER.ICF, OTHERCRT,
OTHERCRT.ICF, OTHERDEL, OTHERDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

OTHER.REMARKS STR %50r REMARKS
OTHER.ITB, OTHER, OTHER.ICF, OTHERCRT,
OTHERCRT.ICF, OTHERDEL, OTHERDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

OTHER.SPONSOR STR %35r Name of project sponsor.
OTHER.ITB, OTHER, OTHER.ICF, OTHERCRT,
OTHERCRT.ICF, OTHERDEL, OTHERDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

OTHER.STATUS STR %25r Status of funds.
OTHER.ITB, OTHER, OTHER.ICF, OTHERCRT,
OTHERCRT.ICF, OTHERDEL, OTHERDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PASSCOND NUM 0, 1 or 2 A variable used to determine
which condition has been selected by a user for deleting a
record from a table. (0 = only 1 condition displayed by
deletion form, 1 = 1st condition was selected and 2 = 2nd
condition was selected)
DELTRECL, INDIRDLT, INVENDLT, OPTARDLT, OTHERDLT,
PFUNDDLTL, PHISTDLT, PURCHDLT, TVLEXDLT

PASSVAR STR or NUM A variable which is used to
determine which selection criterion is used to delete a
record. (DELTVAR equals a specific field's value.)
DELTRECL, INDIRDLT, INVENDLT, OPTARDLT, OTHERDLT,
PFUNDDLTL, PHISTDLT, PURCHDLT, TVLEXDLT

PFUNDING.FUNDFROM NUM dd-dd-dd Date funding began.
PFUNDING.ITB, PFUNDING, PFUNDING.ICF, PFUNCRT,
PFUNCRT.ICF, PFUNDEL, PFUNDEL.ICF, PFUNDRPT.TPL
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN

PFUNDING.FUNDTO NUM dd-dd-dd Date funding ends.
PFUNDING.ITB, PFUNDING, PFUNDING.ICF, PFUNCRT,
PFUNCRT.ICF, PFUNDEL, PFUNDEL.ICF, PFUNDRPT.TPL
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN

PFUNDING.HOURS NUM d
PFUNDING.ITB, PFUNDING, PFUNDING.ICF, PFUNCRT,
PFUNCRT.ICF, PFUNDEL, PFUNDEL.ICF, PFUNDRPT.TPL
Read Access : A.....
Write Access : A.....

PFUNDING.HRSWK NUM dd Hours per week.
PFUNDING.ITB, PFUNDING, PFUNDING.ICF, PFUNCRT,
PFUNCRT.ICF, PFUNDEL, PFUNDEL.ICF, PFUNDRPT.TPL
Read Access : A.....
Write Access : A.....

PFUNDING.LABOR# NUM dd-dd-dd Date of funding memo.
DELTREC2, PFUNDING.ITB, PFUNDING, PFUNDING.ICF, PFUNCRT,
PFUNCRT.ICF, PFUNDEL, PFUNDEL.ICF, UPDRECRD
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN

PFUNDING.LNAME STR %25r Full last name.
BRWTABLE, DELTREC2, PFUNDING.ITB, PFUNDING, PFUNDING.ICF,
PFUNCRT, PFUNCRT.ICF, PFUNDEL, PFUNDEL.ICF,
PFUNDRPT.TPL, UPDRECRD
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN

PFUNDING.RATE NUM \$ddd.dd Pay rate.
PFUNDING.ITB, PFUNDING, PFUNDING.ICF, PFUNCRT,
PFUNCRT.ICF, PFUNDEL, PFUNDEL.ICF, PFUNDRPT.TPL
Read Access : A.....
Write Access : A.....

PHISTORY.BILLET# STR 84r Billet# assigned by CPO.
PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF, PHISTRPT.TPL
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.DOB NUM dd-dd-dd Date of birth.
PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.EFFECTIV NUM dd-dd-dd Effective date of personnel
changes.
PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.ENTRY NUM dd-dd-dd Date of entry.
PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.ES NUM dd-dd-dd Date elements and standards
set for performance review.
PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.EXPIRE NUM dd-dd-dd Date of expiration of tem-
porary appointments.
PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF, PHISTRPT.TPL
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.FNAME STR 315r Full first name.
PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF, PHISTRPT.TPL
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.GRADE NUM dd Grade level.
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF, PHISTRPT.TPL
 Read Access : ABCDEFGHIJKLMNOP
 Write Access : ABCDEFGHIJKLMNOP

PHISTORY.HRSWK NUM dd # of hours worked per week.
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF
 Read Access : ABCDEFGHIJKLMNOP
 Write Access : ABCDEFGHIJKLMNOP

PHISTORY.JOBTITLE STR %30r Title of position.
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF, PHISTRPT.TPL
 Read Access : ABCDEFGHIJKLMNOP
 Write Access : ABCDEFGHIJKLMNOP

PHISTORY.LNAME STR %25r Full last name.
 BRWTABLE, DETREC2, PHISTORY.ITB, PHISTORY, PHISTORY.ICF,
 PHISTCRT, PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF,
 PHISTRPT.TPL, UPDRECRD
 Read Access : ABCDEFGHIJKLMNOP
 Write Access : ABCDEFGHIJKLMNOP

PHISTORY.PD# STR %5r Position description #
 assigned by CPO.
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF
 Read Access : ABCDEFGHIJKLMNOP
 Write Access : ABCDEFGHIJKLMNOP

PHISTORY.RATE \$ddd.dd Hourly rate.
 Virtual field : (((SALARY / 2087) * 3) * 1.30000)
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF
 Read Access : ABCDEFGHIJKLMNOP

PHISTORY.REMARKS STR %100r Remarks.
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF
 Read Access : ABCDEFGHIJKLMNOP
 Write Access : ABCDEFGHIJKLMNOP

PHISTORY.SALARY NUM \$ddddd.dd Annual salary.
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.SERIES NUM dddddd Series classification.
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF, PHISTRPT.TPL
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.STATUS STR %6r Type of appointment.
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.STEP NUM dd Step level.
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF, PHISTRPT.TOL
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.SUPERVSR STR %25r Last name of workload super-
 visor.
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF, PHISTRPT.TPL
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PHISTORY.WORKUNIT STR %10r Workunit.
 PHISTORY.ITB, PHISTORY, PHISTORY.ICF, PHISTCRT,
 PHISTCRT.ICF, PHISTDEL, PHISTDEL.ICF, PHISTRPT.TPL
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.CODE STR %3r Department code. (See data
 sources in User's Manual.)
 PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
 PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.COSTCODE STR %5r Costcode or JON.
 PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
 PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF, REQUSRPT.TPL
 Read Access : ABCDEFGHIJKLMNPO
 Write Access : ABCDEFGHIJKLMNPO

PURCHASE.DESCRPT STR %50r Item description.
 PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
 PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF, REQUSRPT.TPL
 Read Access : ABCDEFGHIJKLMNPO
 Write Access : ABCDEFGHIJKLMNPO

PURCHASE.DOC# STR %10r
 BRWTABLE, DELTREC2, PURCHASE.ITB, PURCHASE, PURCHASE.ICF,
 PURCHCRT, PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF,
 REQUSRPT.TPL, UPDRECRD
 Read Access : ABCDEFGHIJKLMNPO
 Write Access : ABCDEFGHIJKLMNPO

PURCHASE.ENTRY NUM dd-dd-dd Date record is entered.
 PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
 PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
 Read Access : ABCDEFGHIJKLMNPO
 Write Access : ABCDEFGHIJKLMNPO

PURCHASE.ESTIMATE NUM \$ddddd.dd Estimate of cost.
 PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
 PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
 Read Access : ABCDEFGHIJKLMNPO
 Write Access : ABCDEFGHIJKLMNPO

PURCHASE.FIRM NUM \$ddddd.dd Actual cost of item.
 PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
 PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
 Read Access : ABCDEFGHIJKLMNPO
 Write Access : ABCDEFGHIJKLMNPO

PURCHASE.ISSUE STR %25r Last name of individual item
 is issued to.
 PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
 PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
 Read Access : ABCDEFGHIJKLMNPO
 Write Access : ABCDEFGHIJKLMNPO

PURCHASE.LOCATION STR %7r Location of issue.
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.PA# STR %17r Plant Account #.
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.PO# STR %9r Purchase Order #.
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF, REQUSRPT.TPL
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.PRIORITY NUM dd
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.QTY STR rrr
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
Read Access : A.....
Write Access : A.....

PURCHASE.RDD NUM dd-dd-dd Required delivery date.
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF, REQUSRPT.TPL
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.RECEIVED NUM dd-dd-dd
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.REMARKS STR %50r
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.REQUESTER STR %25r Last name of individual who
requested the purchase.
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.SERIAL# STR %12r
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.STOCK# STR %20r
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF, REQUSRPT.TPL
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

PURCHASE.VENDOR STR %40r
PURCHASE.ITB, PURCHASE, PURCHASE.ICF, PURCHCRT,
PURCHCRT.ICF, PURCHDEL, PURCHDEL.ICF, REQUSRPT.TPL
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

TABLE STR The name of a table that
one of the following functions will be performed on;
browse the table, update a record in the table, create
or delete a record.
BRWTABLE, CRTRECRD, DELTRECI
INDIRDLT, INDIRMEN, INDIRUPD,
INVENDLT, INVENMEN, INVENUPD,
OPTARDLT, OPTARMEN, OPTARUPD,
OTHERDLT, OTHERMEN, OTHERUPD,
PFUNDDLTL, PFUNDMEN, PFUNDUPD,
PHISTDLT, PHISTMEN, PHISTUPD,
PURCHDLT, PURCHMEN, PURCHUPD,
TRAVLMEN, TVLEXDLT, TVLEXUPD,
UPDRECRD

TVLEXP.ADVANCE NUM \$ddd.dd \$Amount of advance.

TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

TVLEXP.CLAIM NUM dd-dd-dd Date claim is filed.

OUTSTRPT.TPL, TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

TVLEXP.CODE STR %3r Code indicating type of
travel; recruit, invitational, regular, or association.

TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

TVLEXP.COSTCODE STR %5r Costcode or job order#.

OUTSTRPT.TPL, TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

TVLEXP.DATEDEP NUM dd-dd-dd Date travel originated.

BRWTABLE, TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

TVLEXP.DATERET NUM dd-dd-dd Date travel is concluded.

TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

TVLEXP.DOC# STR %10r Travel order #.

BRWTABLE, DELTREC2, OUTSTRPT.TPL, TVLEXP.ITB, TVLEXP,
TVLEXP.ICF, TVLEXCRT, TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF,
UPDRECRD

Read Access : ABCDEFGHIJKLMNOP

Write Access : ABCDEFGHIJKLMNOP

TVLEXP.DOV# STR rrrrr Disbursing Office Voucher #.
OUTSTRPT.TPL, TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF
Read Access : A.....
Write Access : A.....

TVLEXP.ENTRY NUM dd-dd-dd Date entry of record.
TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

TVLEXP.ESTIMATE NUM \$dddd.dd Estimated cost of travel.
TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

TVLEXP.FIRM NUM \$dddddd.dd Actual cost of travel.
TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

TVLEXP.LOCATION STR %25r Destination of traveler.
TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

TVLEXP.REQUESTER STR %20r Name of traveler.
OUTSTRPT.TPL, TVLEXP.ITB, TVLEXP, TVLEXP.ICF, TVLEXCRT,
TVLEXCRT.ICF, TVLEXDEL, TVLEXDEL.ICF
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP

UPDATVAR STR or NUM A variable which is used to
determine which selection criterion is used to update a
record. (UPDATVAR equals a specific field's value.)
INDIRUPD, INVENUPD, OPTARUPD, OTHERUPD, PFUNDUPD, PHISTUPD,
PURCHUPD, TVLEXUPD, UPDRECR

**APPENDIX I
PROGRAM LISTINGS**

TABLE OF CONTENTS

<u>FILE</u>	<u>PAGE</u>	<u>FILE</u>	<u>PAGE</u>
brwtable	135	outstrpt	162
crtrecrd	137	persdmen	163
dbmen	139	pfunddlt	164
deltrec1	140	pfundmen	165
deltrec2	141	pfundrpt	166
expenmen	146	pfundupd	167
incommen	147	phistdlt	168
indirdlt	148	phistmen	169
indirmen	149	phistrpt	170
indirupd	150	phistupd	171
invendlt	151	prprtmen	172
invenmen	152	purchdlt	173
invenrpt	153	purchmen	174
invenupd	154	purchupd	175
mainmen	155	purrtmen	176
optardlt	156	reprtmen	177
optarmen	157	requisrpt	178
optarupd	158	travlmen	179
otherdlt	159	tvlexdlt	180
othermen	160	tvlexupd	181
otherupd	161	updreocrd	182

This appendix contains listings of all the AS System's perform files, except menus and forms. The code for the menus and forms can be "looked at" by using K-Paint.

```

/* BRWTABLE.IPF - This module browses a table. */
/* Called by:  INDIRMEN.IPF, OPTARMEN.IPF, PFUNDMEN.IPF, */
/*            PHISTMEN.IPF, PURCHMEN.IPF, TRAVLMEN.IPF, */
/*            OTHERMEN.IPF, INVENMEN.IPF */
/* Calls:     INDIRECT.IPF, OPTAR.IPF, PFUNDING.IPF, */
/*            PHISTORY.IPF, PURCHASE.IPF, TVLEXP.IPF, */
/*            OTHER.IPF, TABLDFRM.IPF, INVENTOR.IPF */
/* Author: R. Booker, 15 Oct 85 */

```

```

E.ICAS = TRUE; ! ignore case differences among string values
PERFORM TABLDFRM;
PUTFORM TABLDFRM;

```

```

TABLE = #A;

```

```

TEST TABLE

```

```

CASE "INDIRECT":
    USE INDIRECT;
    SORT INDIRECT BY AZ PRINCIPL;
    LOAD FROM INDIRECT; ! the indirect funds entry form
    BROWSE INDIRECT ALL WITH INDIRECT;
    BREAK;
CASE "INVENTOR":
    USE INVENTOR;
    SORT INVENTOR BY AZ PA#;
    LOAD FROM INVENTOR; ! the inventory entry form
    BROWSE INVENTOR ALL WITH INVENTOR;
    BREAK;
CASE "OPTAR":
    USE OPTAR;
    SORT OPTAR BY AZ RECEIVED;
    LOAD FROM OPTAR; ! the OPTAR entry form
    BROWSE OPTAR ALL WITH OPTAR;
    BREAK;

```

```

CASE "OTHER":
    USE OTHER;
    SORT OTHER BY AZ PRINCIPL;
    LOAD FROM OTHER;    ! the other funds entry form
    BROWSE OTHER ALL WITH OTHER;
    BREAK;
CASE "PFUNDING":
    USE PFUNDING;
    SORT PFUNDING BY AZ LNAME;
    LOAD FROM PFUNDING; ! the personnel funding entry form
    BROWSE PFUNDING ALL WITH PFUNDING;
    BREAK;
CASE "PHISTORY":
    USE PHISTORY;
    SORT PHISTORY BY AZ LNAME;
    LOAD FROM PHISTORY; ! the personnel history entry form
    BROWSE PHISTORY ALL WITH PHISTORY;
    BREAK;
CASE "PURCHASE":
    USE PURCHASE;
    SORT PURCHASE BY AZ DOC#;
    LOAD FROM PURCHASE;    ! the purchase entry form
    BROWSE PURCHASE ALL WITH PURCHASE;
    BREAK;
CASE "TVLEXP":
    USE TVLEXP;
    SORT TVLEXP BY AZ DATEDEP, DOC#;
    LOAD FROM TVLEXP;    ! the travel expenses entry form
    BROWSE TVLEXP ALL WITH TVLEXP;
    BREAK;

ENDTEST;
FINISH ALL;
FORMANS = " ";
E.ICAS = FALSE;
RETURN;

```

```

/* CRTRECRD.IPF - This module creates a record in a passed */
/*               table.                                     */
/* Called by: PFUNDMEN.IPF, PHISTMEN.IPF, TRAVLMEN.IPF,    */
/*            INDIRMEN.IPF, OTHERMEN.IPF, PURCHMEN.IPF,    */
/*            OPTARMEN.IPF, INVENMEN.IPF                   */
/* Calls:      INDIRCRT.IPF, OPTARCRT.IPF, PFUNCRT.IPF,    */
/*            PHISTCRT.IPF, PURCHCRT.IPF, TVLEXCRT.IPF     */
/*            OTHERCRT.IPF, TABLDfrm.IPF, INVCNRT.IPF      */
/* Author:     R. Booker      26 Jan 86                    */

```

```

E.LMOD=FALSE; ! only blanks will first appear in the creation
               ! form

```

```

PERFORM TABLDfrm;
PUTFORM TABLDfrm;

```

```

TABLE = #A;
TEST TABLE

```

```

CASE "INDIRECT":

```

```

    USE INDIRECT;
    LOAD FROM INDIRCRT;    ! the indirect cost form
    CREATE RECORD FOR INDIRECT WITH INDIRCRT;
    BREAK;

```

```

CASE "INVENTOR":

```

```

    USE INVENTOR;
    LOAD FROM INVCNRT;    ! the inventory form
    CREATE RECORD FOR INVENTOR WITH INVCNRT;
    BREAK;

```

```

CASE "OPTAR":

```

```

    USE OPTAR;
    LOAD FROM OPTARCRT;    ! the optar form
    E.ICOM = TRUE; ! immediate compute of virtual field
    CREATE RECORD FOR OPTAR WITH OPTARCRT;
    E.ICOM = FALSE; BREAK;

```

```

CASE "OTHER":
    USE OTHER;
    LOAD FROM OTHERCRT;    ! the other funds form
    CREATE RECORD FOR OTHER WITH OTHERCRT;
    BREAK;

CASE "PFUNDING":
    USE PFUNDING;
    LOAD FROM PFUNCDCRT;    ! the personnel funding form
    CREATE RECORD FOR PFUNDING WITH PFUNCDCRT;
    BREAK;

CASE "PHISTORY":
    USE PHISTORY;
    LOAD FROM PHISTCRT; ! the personnel history form
    CREATE RECORD FOR PHISTORY WITH PHISTCRT;
    BREAK;

CASE "PURCHASE":
    USE PURCHASE;
    LOAD FROM PURCHCRT;    ! the purchase form
    CREATE RECORD FOR PURCHASE WITH PURCHCRT;
    BREAK;

CASE "TVLEXP":
    USE TVLEXP;
    LOAD FROM TVLEXCRT;    ! the travel expenses form
    CREATE RECORD FOR TVLEXP WITH TVLEXCRT;
    BREAK;

ENDTEST;
FINISH ALL;
FORMANS = " ";          ! places a blank in calling module prompt
E.LMOD=TRUE;            ! default
RETURN;

```



```

/* DBMEN.IPF - Brings up the data base menu, and perform */
/* (1.0)      either EXPENMEN.IPF, INCOMMEN.IPF or      */
/*            INVENMEN.IPF                               */
/* Called by:  MAINMEN.IPF                               */
/* Calls:      DBFRM.IPF, ERRORFRM.IPF, EXPENMEN.IPF,   */
/*            INCOMMEN.IPF, INVENMEN.IPF               */
/* Author:     R. Booker      15 Jan 86                 */

```

```
FORMANS = " ";
```

```
WHILE FORMANS NE "4" DO      ! don't exit from module
```

```

    PERFORM DBFRM;          ! expenses form
    PUTFORM DBFRM;
    GETFORM DBFRM;

```

```

WHILE NOT (FORMANS IN ["1","2","3","4"]) DO
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```

TEST FORMANS
    CASE "1": PERFORM "EXPENMEN.IPF"; BREAK;
    CASE "2": PERFORM "INCOMMEN.IPF"; BREAK;
    CASE "3": PERFORM "INVENMEN.IPF"; BREAK;
ENDTEST;

```

```
ENDWHILE;          ! formans = "4"
```

```
FORMANS = " ";      ! places a blank at calling menu prompt
```

```
RETURN;
```

```

/* DELTREC1.IPF - This module gives a user another chance */
/*                before deleting a record.                */
/* Called by: INDIRDLT.IPF, OPTARDLT.IPF, OTHERDLT.IPF,    */
/*                PFUNDLDT.IPF, PHISTDLT.IPF, PURCHDLT.IPF,  */
/*                TVLEXDLT.IPF, INVENDLT.IPF                */
/* Calls:        DELQSFRM.IPF, DELERFRM.IPF, DELTREC2.IPF   */
/* Author: R. Booker, 30 Nov 85                             */

```

```

E.ICAS = TRUE;

```

```

TABLE = #A; ! table for deletion, passed from calling module

```

```

PASSVAR = #B; ! value of condition variable for deletion

```

```

PASSCOND = #C; ! condition for deletion, passed from calling
               ! module

```

```

DELTANS = " "; ! updated by DELQSFRM

```

```

PERFORM DELQSFRM; ! checks to ensure that the user wants to
PUTFORM DELQSFRM; ! delete
GETFORM DELQSFRM;

```

```

WHILE NOT (DELTANS IN ["Y","N"]) DO ! check input
    PERFORM DELERFRM;
    PUTFORM DELERFRM;
    GETFORM DELERFRM;
ENDWHILE;

```

```

IF DELTANS = "Y" THEN
    PERFORM "DELTREC2.IPF" USING "TABLE", "PASSVAR", "PASSCOND";
ENDIF;
FORMANS = " "; ! places a blank at calling menu prompt
RETURN;

```

```

/* DELTREC2.IPF - This module deletes a record from a passed */
/*                table.                                     */
/* Called by: DELTREC1.IPF                                   */
/* Calls:      INDIRDEL.IPF, OTHERDEL.IPF, PHISTDEL.IPF,    */
/*            PURCHDEL.IPF, TVLEXDEL.IPF, DELETFRM.IPF,     */
/*            TABLDFRM.IPF, PFUNDDEL.IPF, OPTARDEL.IPF      */
/*            INVENDEL.IPF                                   */
/* Author: R. Booker, 30 Nov 85                             */

```

```

E.ICAS = TRUE;      ! ignore case differences among string values

```

```

PASTABLE = #A; ! table for deletion, passed from calling module

```

```

DELETVAR = #B;      ! condition variable for deletion

```

```

COND      = #C; ! condition for deletion, passed from calling
              ! module

```

```

PERFORM TABLDFRM;
PUTFORM TABLDFRM;

```

```

TEST PASTABLE ! test the table which will be used for deletion

```

```

CASE "INDIRECT":
  USE INDIRECT;
  LOAD FROM INDIRDEL; ! the indirect cost deletion form
  BROWSE INDIRECT FOR EXPIRE = DELETVAR ALL WITH INDIRDEL;
  BREAK;

```

```

CASE "INVENTOR":
    USE INVENTOR;
    LOAD FROM INVENDEL; ! the inventory deletion form

    IF COND = 1 THEN      ! browse on PA#
        BROWSE INVENTOR FOR PA# = DELETVAR ALL\
        WITH INVENDEL;
    ELSE
        IF COND = 2 THEN      ! delete on SERIAL#
            BROWSE INVENTOR FOR SERIAL# = DELETVAR ALL\
            WITH INVENDEL;
        ENDIF;
    ENDIF;
    BREAK;

CASE "OPTAR":
    USE OPTAR;
    LOAD FROM OPTARDEL; ! the OPTAR deletion form
    IF COND = 1 THEN      ! browse on RECEIVED
        BROWSE OPTAR FOR RECEIVED = DELETVAR ALL\
        WITH OPTARDEL;
    ELSE
        IF COND = 2 THEN      ! browse on ENTRY
            BROWSE OPTAR FOR ENTRY = DELETVAR ALL\
            WITH OPTARDEL;
        ENDIF;
    ENDIF;
    BREAK;

CASE "OTHER":
    USE OTHER;
    LOAD FROM OTHERDEL; ! the other funds deletion form
    BROWSE OTHER FOR EXPIRE = DELETVAR ALL WITH OTHERDEL;
    BREAK;

```

```

CASE "PFUNDING":
    USE PFUNDING;
    LOAD FROM PFUNDDEL; ! the personnel funding deletion form

    IF COND = 1 THEN          ! browse on LNAME
        BROWSE PFUNDING FOR LNAME = DELETVAR ALL\
            WITH PFUNDDEL;
    ELSE
        IF COND = 2 THEN      ! delete or LABOR#
            BROWSE PFUNDING FOR LABOR# = DELETVAR ALL\
                WITH PFUNDDEL;
        ENDIF;
    ENDIF;
    BREAK;

CASE "PHISTORY":
    USE PHISTORY;
    LOAD FROM PHISTDEL; ! the personnel history deletion
                        ! form
    BROWSE PHISTORY FOR LNAME = DELETVAR ALL WITH PHISTDEL;
    BREAK;

CASE "PURCHASE":
    USE PURCHASE;
    LOAD FROM PURCHDEL; ! the purchase deletion form
    BROWSE PURCHASE FOR DOC# = DELETVAR ALL WITH PURCHDEL;
    BREAK;

CASE "TVLEXP":
    USE TVLEXP;
    LOAD FROM TVLEXDEL; ! the travel expenses deletion
                        ! form
    BROWSE TVLEXP FOR DOC# = DELETVAR ALL WITH TVLEXDEL;
    BREAK;

```

ENDTEST;

IF #FOUND = TRUE THEN ! this prevents the current record from
! being deleted if a record is not found

PERFORM DELETFRM; ! notification that a record is being
PUTFORM DELETFRM; ! deleted

TEST PASTABLE

CASE "INDIRECT":

MARK RECORDS IN INDIRECT WITH TRUE CURRENT;
COMPRESS INDIRECT;
BREAK;

CASE "INVENTOR":

MARK RECORDS IN INVENTOR WITH TRUE CURRENT;
COMPRESS INVENTOR;
BREAK;

CASE "OPTAR":

MARK RECORDS IN OPTAR WITH TRUE CURRENT;
COMPRESS OPTAR;
BREAK;

CASE "OTHER":

MARK RECORDS IN OTHER WITH TRUE CURRENT;
COMPRESS OTHER;
BREAK;

CASE "PFUNDING":

MARK RECORDS IN PFUNDING WITH TRUE CURRENT;
COMPRESS PFUNDING;
BREAK;

CASE "PHISTORY":

MARK RECORDS IN PHISTORY WITH TRUE CURRENT;
COMPRESS PHISTORY;
BREAK;

CASE "PURCHASE":

MARK RECORDS IN PURCHASE WITH TRUE CURRENT;
COMPRESS PURCHASE;
BREAK;

CASE "TVLEXP":

MARK RECORDS IN TVLEXP WITH TRUE CURRENT;
COMPRESS TVLEXP;
BREAK;

ENDTEST;

ENDIF;

FINISH ALL;

RETURN;

```

/* EXPENMEN.IPF - Brings up the expenses menu and performs */
/* (1.1)          either PERSDMEN.IPF, TRAVLMEN.IPF or      */
/*                PURCHMEN                                   */
/* Called by: DBMEN.IPF                                     */
/* Calls:         EXPENFRM.IPF, ERRORFRM.IPF, PERSDMEN.IPF,  */
/*                TRAVLMEN.IPF, PURCHMEN.IPF                 */
/* Author:        R. Booker          15 Jan 86                */

```

```
FORMANS = " ";
```

```
WHILE FORMANS NE "4" DO      ! don't exit module
```

```

    PERFORM EXPENFRM;        ! expenses form
    PUTFORM EXPENFRM;
    GETFORM EXPENFRM;

```

```

WHILE NOT (FORMANS IN ["1","2","3","4"]) DO
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```
TEST FORMANS
```

```

CASE "1": PERFORM "PERSDMEN.IPF"; BREAK;
CASE "2": PERFORM "TRAVLMEN.IPF"; BREAK;
CASE "3": PERFORM "PURCHMEN.IPF"; BREAK;

```

```
ENDTEST;
```

```
ENDWHILE;      ! formans = "4"
```

```
FORMANS = " "; ! places a blank at calling module prompt
```

```
RETURN;
```



```

/* INCOMMEN.IPF (1.2) */
/* Brings up the data base income menu, and either performs */
/* OPTARMEN.IPF, INDIRMEN.IPF or OTHERMEN.IPF */
/* Called by: DBMEN.IPF */
/* Calls:      INCOMFRM.IPF, ERRORFRM.IPF, OPTARMEN.IPF, */
/*            INDIRMEN.IPF, OTHERMEN.IPF */
/* Author:     R. Booker      15 Jan 86 */

```

```
FORMANS = " ";
```

```
WHILE FORMANS NE "4" DO      ! don't exit module
```

```

    PERFORM INCOMFRM;      ! data base menu
    PUTFORM INCOMFRM;
    GETFORM INCOMFRM;

```

```

WHILE NOT (FORMANS IN ["1","2","3","4"]) DO
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```

TEST FORMANS
    CASE "1": PERFORM "OPTARMEN.IPF"; BREAK;
    CASE "2": PERFORM "INDIRMEN.IPF"; BREAK;
    CASE "3": PERFORM "OTHERMEN.IPF"; BREAK;
ENDTEST;

```

```
ENDWHILE;      ! formans = "4"
```

```

FORMANS = " ";      ! places a blank at calling menu prompt
RETURN;

```

```

/* INDIRDLT.IPF (1.2.2.2) */
/* Brings up the menu for the deletion of a record from the */
/* indirect funds table. */
/* Called by: INDIRMEN.IPF */
/* Calls:      INDELFrm.IPF, ERLINDIR.IPF, DELTRECl.IPF */
/* Author: R. Booker      22 Jan 86 */

```

```
FORMANS = " ";
```

```
ENTRYONE = 0;          ! entered from indelfrm
```

```
PASCOND = 0; ! condition for deletion, no choice = 0
```

```
WHILE ENTRYONE = 0 DO      ! exit from module
```

```

    PERFORM INDELFrm;      ! indirect deletion menu
    PUTFORM INDELFrm;
    GETFORM INDELFrm;

```

```

    WHILE ENTRYONE = 0 DO ! check input
        PERFORM ERLINDIR;
        PUTFORM ERLINDIR;
        GETFORM ERLINDIR;
    ENDWHILE;

```

```

    PERFORM "DELTRECl.IPF" USING "\"INDIRECT\"", "ENTRYONE", \
        "PASCOND";

```

```
ENDWHILE;          ! formans not blank
```

```
ENTRYONE = 0;
```

```

FORMANS = " ";      ! places a blank at calling module prompt
RETURN;

```

```

/* INDIRMEN.IPF - Brings up the menu for indirect income table*/
/* (1.2.2)      and offers the following options: browse the*/
/*              INDIRECT table, add, update or delete a    */
/*              record to or from it, and to quit.          */
/* Called by: INCOMMEN.IPF                                  */
/* Calls:      INDIRFRM.IPF, ERRORFRM.IPF, BRWTABLE.IPF,    */
/*              INDIRUPD.IPF, CRTRECRD.IPF, INDIRDLT.IPF    */
/* Author:     R. Booker      15 Jan 86                     */

```

```
FORMANS = " ";
```

```
WHILE FORMANS NE "5" DO      ! exit from module
```

```

    PERFORM INDIRFRM;      ! indirect cost menu
    PUTFORM INDIRFRM;
    GETFORM INDIRFRM;

```

```
! check input
```

```

WHILE NOT (FORMANS IN ["1","2","3","4","5"]) DO
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```
TEST FORMANS
```

```

CASE "1": PERFORM "BRWTABLE.IPF" USING "\"INDIRECT\"";
          BREAK;
CASE "2": PERFORM "INDIRUPD.IPF"; BREAK;
CASE "3": PERFORM "CRTRECRD.IPF" USING "\"INDIRECT\"";
          BREAK;
CASE "4": PERFORM "INDIRDLT.IPF"; BREAK;

```

```
ENDTEST;
```

```

ENDWHILE;      ! formans = "5"
FORMANS = " "; ! places a blank at calling module prompt
RETURN;

```

```

/* INDIRUPD.IPF - Brings up the menu for updating of the      */
/* (1.2.2.1)      indirect funds table.                        */
/* Called by: INDIRMEN.IPF                                     */
/* Calls:      INUPDFRM.IPF, ER2INDIR.IPF, UPDRECRD.IPF        */
/* Author: R. Booker      22 Jan 86                             */

```

```

FORMANS = " ";
ENTRYONE = " "; ! the 1st condition for an update, entered from
                ! inupdfm
ENTRYTWO = " "; ! the 2nd condition for an update, entered from
                ! inupdfm
PASCOND = 0;    ! the field to search for the update
WHILE ENTRYONE = " " AND ENTRYTWO = " " DO ! exit from module
    PERFORM INUPDFRM;                ! indirect funding update menu
    PUTFORM INUPDFRM;
    GETFORM INUPDFRM;
    WHILE ENTRYONE = " " AND ENTRYTWO = " " DO ! check input
        PERFORM ER2INDIR;
        PUTFORM ER2INDIR;
        GETFORM ER2INDIR;
    ENDWHILE;
    IF ENTRYONE NE " " THEN
        PASCOND = 1;                ! update by cost code
        PERFORM "UPDRECRD.IPF" USING "\"INDIRECT\"",\
            "ENTRYONE", "PASCOND";
    ELSE
        IF ENTRYTWO NE " " THEN
            PASCOND = 2;                ! update by principl
            PERFORM "UPDRECRD.IPF" USING "\"INDIRECT\"",\
                "ENTRYTWO", "PASCOND";
        ENDIF;
    ENDIF;
ENDWHILE;    ! formans not blank
ENTRYONE = " "; ENTRYTWO = " ";
FORMANS = " "; RETURN;

```

```

/* INVENDLT.IPF (1.3.2) */
/* Brings up the menu for the deletion of a record from the */
/* inventory table. */
/* Called by: INVENMEN.IPF */
/* Calls:      IVDELFRM.IPF, EROINVEN.IPF, DELTRECl.IPF */
/* Author: R. Booker      25 Feb 86 */

```

```

FORMANS = " ";
ENTRYONE = " ";      ! entered from ivdelfrm
ENTRYTWO = " ";      ! entered from ivdelfrm
PASCOND = 0;         ! condition for deletion
WHILE ENTRYONE = " " AND ENTRYTWO = " " DO ! exit from module
    PERFORM IVDELFRM;      ! inventory deletion menu
    PUTFORM IVDELFRM;
    GETFORM IVDELFRM;
    WHILE ENTRYONE = " " AND ENTRYTWO = " " DO ! check input
        PERFORM EROINVEN;
        PUTFORM EROINVEN;
        GETFORM EROINVEN;
    ENDWHILE;
    IF ENTRYONE NE " " THEN
        PASCOND = 1;      ! delete by PA#
        PERFORM "DELTRECl.IPF" USING "\"INVENTOR\"",\
            "ENTRYONE", "PASCOND";
    ELSE
        IF ENTRYTWO NE " " THEN
            PASCOND = 2;      ! delete by SERIAL#
            PERFORM "DELTRECl.IPF" USING "\"INVENTOR\"",\
                "ENTRYTWO", "PASCOND";
        ENDIF;
    ENDIF;
ENDWHILE;      ! formans not blank
ENTRYONE = " "; ENTRYTWO = " ";
FORMANS = " ";      ! places a blank at calling module prompt
RETURN;

```

```

/* INVENMEN.IPF - Brings up the menu for the inventory table */
/* (1.3)          and offers the following options: browse the*/
/*               table, update, add, or delete a record, or */
/*               quit.                                     */
/* Called by: DBMEN.IPF                                   */
/* Calls:      INVENFRM.IPF, ERRORFRM.IPF, BRWTABLE.IPF,   */
/*            INVENUPD.IPF, CRTRECRD.IPF, INVENDLT.IPF     */
/* Author:     R. Booker      25 Feb 86                    */

```

```
FORMANS = " ";
```

```
WHILE FORMANS NE "5" DO      ! exit from module
```

```

    PERFORM INVENFRM;      ! inventory menu
    PUTFORM INVENFRM;
    GETFORM INVENFRM;

```

```
! check input
```

```
WHILE NOT (FORMANS IN ["1","2","3","4","5"]) DO
```

```

    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;

```

```
ENDWHILE;
```

```
TEST FORMANS
```

```

CASE "1": PERFORM "BRWTABLE.IPF" USING "\"INVENTOR\"";
          BREAK;

```

```
CASE "2": PERFORM "INVENUPD.IPF"; BREAK;
```

```

CASE "3": PERFORM "CRTRECRD.IPF" USING "\"INVENTOR\"";
          BREAK;

```

```
CASE "4": PERFORM "INVENDLT.IPF"; BREAK;
```

```
ENDTEST;
```

```
ENDWHILE;      ! formans = "5"
```

```
FORMANS = " ";      ! places a blank at calling module prompt
```

```
RETURN;
```

```

/* INVENRPT.IPF (2.2.2) */
/* This module prints the quarterly inventory report. */
/* Called by: PURRTMEN.IPF */
/* Calls:      TRPLDFRM.IPF */
/* Author:      R. Booker      25 Feb 86 */

```

```

PERFORM TRPLDFRM;  ! Table and Report Loading form
PUTFORM TRPLDFRM;

E.LSTR = 50;          ! Change string length to 50 characters.
E.OPRN = TRUE;        ! Send output to printer.
E.PDEP = 62;          ! Change page depth to 62 lines.
E.PWID = 130;         ! Change page width to 130 character.

```

```

USE INVENTOR        ! inventory table.

```

```

REPORT "INVENRPT" ORDER BY AZ PA#
                ! Report was created with K-Report.

```

```

FINISH INVENTOR

```

```

E.LSTR = 15;          ! Change all environment variables to their
                        ! defaults.

```

```

E.OPRN = FALSE;
E.PDEP = 60;
E.PWID = 120;

```

```

FORMANS = " ";        ! places a blank at calling module's prompt
RETURN;

```

```

/* INVENUPD.IPF - Brings up the menu for updating of the      */
/* (1.3.1)          inventory table.                          */
/* Called by: INVENMEN.IPF                                     */
/* Calls:          IVUPDFRM.IPF, EROINVEN.IPF, UPDRECRD.IPF    */
/* Author: R. Booker      25 Feb 86                             */

```

```

FORMANS = " ";
ENTRYONE = " "; ! the 1st condition for an update, entered
                ! from ivupdfm
ENTRYTWO = " "; ! the 2nd condition for an update, entered
                ! from ivupdfm
PASCOND = 0;    ! the field to search for the update
WHILE ENTRYONE = " " AND ENTRYTWO = " " DO ! exit from module
    PERFORM IVUPDFRM;          ! inventory update menu
    PUTFORM IVUPDFRM;
    GETFORM IVUPDFRM;
    WHILE ENTRYONE = " " AND ENTRYTWO = " " DO ! check input
        PERFORM EROINVEN;
        PUTFORM EROINVEN;
        GETFORM EROINVEN;
    ENDWHILE;
IF ENTRYONE NE " " THEN
    PASCOND = 1;                ! update by PA#
    PERFORM "UPDRECRD.IPF" USING "\"INVENTOR\"",\
        "ENTRYONE", "PASCOND";
ELSE
    IF ENTRYTWO NE " " THEN
        PASCOND = 2;          ! update by SERIAL#
        PERFORM "UPDRECRD.IPF" USING "\"INVENTOR\"",\
            "ENTRYTWO", "PASCOND";
    ENDIF;
ENDIF;
ENDWHILE;          ! formans not blank
ENTRYONE = " "; ENTRYTWO = " ";
FORMANS = " "; RETURN;

```



```

/* MAINMEN.IPF (0) */
/* Brings up the main AS Department data base menu, performs */
/* DBMEN.IPF or REPRTMEN.IPF */
/* Calls: MAINFRM.IPF, ERRORFRM.IPF, DBMEN.IPF, REPRTMEN.IPF */
/* Author: R. Booker 15 Jan 86 */

```

```
FORMANS = " ";
```

```
WHILE FORMANS NE "3" DO ! exit from module
```

```

    PERFORM MAINFRM; ! system banner menu
    PUTFORM MAINFRM;
    GETFORM MAINFRM;

```

```

WHILE NOT (FORMANS IN ["1","2","3"]) DO ! input check
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```

TEST FORMANS
    CASE "1": PERFORM "DBMEN.IPF"; BREAK;
    CASE "2": PERFORM "REPRTMEN.IPF"; BREAK;
ENDTEST;

```

```
ENDWHILE; ! formans = "3"
```

```
RELEASE ALL;
```

```
CLEAR;
```

```
RETURN;
```

```

/* OPTARDLT.IPF (1.2.1.2) */
/* Brings up the menu for the deletion of a record from the */
/* OPTAR funding table. */
/* Called by: OPTARMEN.IPF */
/* Calls:      OPDELFRM.IPF, EROOPTAR.IPF, DELTRECl.IPF */
/* Author: R. Booker      22 Jan 86 */

```

```

FORMANS = " ";
ENTRYONE = 0;          ! entered from opdelfrm
ENTRYTWO = 0;          ! entered from opdelfrm
PASCOND = 0;          ! condition for deletion
WHILE ENTRYONE = 0 AND ENTRYTWO = 0 DO      ! exit from module
    PERFORM OPDELFRM;          ! OPTAR deletion menu
    PUTFORM OPDELFRM;
    GETFORM OPDELFRM;
    WHILE ENTRYONE = 0 AND ENTRYTWO = 0 DO ! check input
        PERFORM EROOPTAR;
        PUTFORM EROOPTAR;
        GETFORM EROOPTAR;
    ENDWHILE;
    IF ENTRYONE NE 0 THEN
        PASCOND = 1;          ! delete by RECEIVED
        PERFORM "DELTRECl.IPF" USING "\"OPTAR\"", "ENTRYONE",\
            "PASCOND";
    ELSE
        IF ENTRYTWO NE 0 THEN
            PASCOND = 2;          ! delete by ENTRY
            PERFORM "DELTRECl.IPF" USING "\"OPTAR\"",\
                "ENTRYTWO", "PASCOND";
        ENDIF;
    ENDIF;
ENDWHILE;          ! formans not blank
ENTRYONE = 0; ENTRYTWO = 0;
FORMANS = " ";      ! places a blank at calling module prompt
RETURN;

```

```

/* OPTARMEN.IPF - Brings up the menu for the OPTAR table and */
/* (1.2.1)      offers the following options: browse the */
/*              table, update, add, or delete a record, or */
/*              quit. */
/* Called by: INCOMMEN.IPF */
/* Calls:      OPTARFRM.IPF, ERRORFRM.IPF, BRWTABLE.IPF, */
/*              OPTARUPD.IPF, CRTRECRD.IPF, OPTARDLT.IPF */
/* Author:     R. Booker      15 Jan 86 */

```

```
FORMANS = " ";
```

```
WHILE FORMANS NE "5" DO      ! exit from module
```

```

    PERFORM OPTARFRM;          ! OPTAR menu
    PUTFORM OPTARFRM;
    GETFORM OPTARFRM;

```

```
! check input
```

```

WHILE NOT (FORMANS IN ["1","2","3","4","5"]) DO
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```
TEST FORMANS
```

```

CASE "1": PERFORM "BRWTABLE.IPF" USING "\"OPTAR\"";
          BREAK;
CASE "2": PERFORM "OPTARUPD.IPF"; BREAK;
CASE "3": PERFORM "CRTRECRD.IPF" USING "\"OPTAR\"";
          BREAK;
CASE "4": PERFORM "OPTARDLT.IPF"; BREAK;

```

```
ENDTEST;
```

```
ENDWHILE;          ! formans = "5"
```

```
FORMANS = " ";      ! places a blank at calling module prompt
```

```
RETURN;
```

```

/* OPTARUPD.IPF (1.2.1.1) */
/* Brings up the menu for updating of the OPTAR funding table.*/
/* Called by: OPTARMEN.IPF */
/* Calls:      OPUPDFRM.IPF, EROOPTAR.IPF, UPDRECRD.IPF */
/* Author: R. Booker      22 Jan 86 */

```

```

FORMANS = " ";
ENTRYONE = 0; ! the 1st condition for an update, entered from
              ! opupdfm
ENTRYTWO = 0; ! the 2nd condition for an update, entered from
              ! opupdfm
PASCOND = 0; ! the field to search for the update
WHILE ENTRYONE = 0 AND ENTRYTWO = 0 DO      ! exit from module
    PERFORM OPUPDFRM;                      ! personnel funding update menu
    PUTFORM OPUPDFRM;
    GETFORM OPUPDFRM;
    WHILE ENTRYONE = 0 AND ENTRYTWO = 0 DO ! check input
        PERFORM EROOPTAR;
        PUTFORM EROOPTAR;
        GETFORM EROOPTAR;
    ENDWHILE;
    IF ENTRYONE NE 0 THEN
        PASCOND = 1;                      ! update by RECEIVED
        PERFORM "UPDRECRD.IPF" USING "\"OPTAR\"", "ENTRYONE",\
            "PASCOND";
    ELSE
        IF ENTRYTWO NE 0 THEN
            PASCOND = 2;                  ! update by ENTRY
            PERFORM "UPDRECRD.IPF" USING "\"OPTAR\"",\
                "ENTRYTWO", "PASCOND";
        ENDIF;
    ENDIF;
ENDWHILE;      ! formans not blank
ENTRYONE = 0; ENTRYTWO = 0;
FORMANS = " "; RETURN;

```

```

/* OTHERDLT.IPF (1.2.3.2) */
/* Brings up the menu for the deletion of a record from the */
/* other funds table. */
/* Called by: OTHERMEN.IPF */
/* Calls:      OTDELFrm.IPF, ERLINDIR.IPF, DELTREC1.IPF */
/* Author: R. Booker      22 Jan 86 */

```

```
FORMANS = " ";
```

```
ENTRYONE = 0;          ! entered from otdefrm
```

```
PASCOND = 0; ! condition for deletion, no choice = 0
```

```
WHILE ENTRYONE = 0 DO      ! exit from module
```

```

    PERFORM OTDELFrm;      ! other deletion menu
    PUTFORM OTDELFrm;
    GETFORM OTDELFrm;

```

```

WHILE ENTRYONE = 0 DO ! check input
    PERFORM ERLINDIR;      ! same as for indirect table
    PUTFORM ERLINDIR;
    GETFORM ERLINDIR;
ENDWHILE;

```

```

PERFORM "DELTREC1.IPF" USING "\"OTHER\"", "ENTRYONE", \
    "PASCOND";

```

```
ENDWHILE;          ! formans not blank
```

```
ENTRYONE = 0;
```

```

FORMANS = " ";      ! places a blank at calling module prompt
RETURN;

```

```

/* OTHERMEN.IPF - Brings up the menu for other income, and */
/* (1.2.3) offers the following options: browse the */
/* OTHER table, add, update, or delete a */
/* record, or quit. */
/* Called by: INCOMMEN.IPF */
/* Calls: OTHERFRM.IPF, ERRORFRM.IPF, BRWTABLE.IPF, */
/* OTHERUPD.IPF, CRTRECRD.IPF, OTHERDLT.IPF */
/* Author: R. Booker 15 Jan 86 */

```

```

FORMANS = " ";
WHILE FORMANS NE "5" DO ! exit from module
    PERFORM OTHERFRM; ! personnel other funds menu
    PUTFORM OTHERFRM;
    GETFORM OTHERFRM;

    ! check input
    WHILE NOT (FORMANS IN ["1","2","3","4","5"]) DO
        PERFORM ERRORFRM;
        PUTFORM ERRORFRM;
        GETFORM ERRORFRM;
    ENDWHILE;

    TEST FORMANS
        CASE "1": PERFORM "BRWTABLE.IPF" USING "\"OTHER\"";
            BREAK;
        CASE "2": PERFORM "OTHERUPD.IPF"; BREAK;
        CASE "3": PERFORM "CRTRECRD.IPF" USING "\"OTHER\"";
            BREAK;
        CASE "4": PERFORM "OTHERDLT.IPF"; BREAK;
    ENDTEST;

ENDWHILE; ! formans = "5"

FORMANS = " "; ! places a blank at calling module prompt
RETURN;

```

```

/* OTHERUPD.IPF - Brings up the menu for updating of the other*/
/* (1.2.3.1)      funds table.                                */
/* Called by: OTHERMEN.IPF                                   */
/* Calls:      OTUPDFRM.IPF, ER2INDIR.IPF, UPDRECRD.IPF      */
/* Author: R. Booker      22 Jan 86                          */

```

```

FORMANS = " ";
ENTRYONE = " "; ! the 1st condition for an update, entered
                ! from otupdfm
ENTRYTWO = " "; ! the 2nd condition for an update, entered
                ! from otupdfm
PASCOND = 0;    ! the field to search for the update
WHILE ENTRYONE = " " AND ENTRYTWO = " " DO ! exit from module
    PERFORM OTUPDFRM;                ! indirect funding update menu
    PUTFORM OTUPDFRM;
    GETFORM OTUPDFRM;
    WHILE ENTRYONE = " " AND ENTRYTWO = " " DO ! check input
        PERFORM ER2INDIR;            ! same as for the indirect table
        PUTFORM ER2INDIR;
        GETFORM ER2INDIR;
    ENDWHILE;
    IF ENTRYONE NE " " THEN
        PASCOND = 1;                ! update by cost code
        PERFORM "UPDRECRD.IPF" USING "\"OTHER\"", "ENTRYONE",\
            "PASCOND";
    ELSE
        IF ENTRYTWO NE " " THEN
            PASCOND = 2;            ! update by principl
            PERFORM "UPDRECRD.IPF" USING "\"OTHER\"",\
                "ENTRYTWO", "PASCOND";
        ENDIF;
    ENDIF;
ENDWHILE;    ! formans not blank
ENTRYONE = " "; ENTRYTWO = " ";
FORMANS = " "; RETURN;

```

```

/* OUTSTRPT.IPF (2.3) */
/* This module prints the outstanding TO(s) report. */
/* Called by: REPRMEN.IPF */
/* Calls:      TRPLDFRM.IPF */
/* Author:      R. Booker   15 Jan 85 */

```

```

PERFORM TRPLDFRM; ! Table and Report Loading form
PUTFORM TRPLDFRM;

```

```

E.LSTR = 25;           ! Change string length to 25 characters.
E.OPRN = TRUE;         ! Send output to printer.
E.PDEP = 62;          ! Change page depth to 62 lines.
E.PWID = 130;         ! Change page width to 130 character.

```

```

USE TVLEXP             ! Travel Expenses table.

```

```

REPORT "OUTSTRPT" ORDER BY AZ COSTCODE;

```

```

FINISH TVLEXP

```

```

E.LSTR = 15; ! Change all environment variables to their
              ! defaults.

```

```

E.OPRN = FALSE;
E.PDEP = 60;
E.PWID = 120;

```

```

FORMANS = " "; ! places a blank at calling module's prompt

```

```

RETURN;

```



```

/* PERSDMEN.IPF (1.1.1) - Brings up the personnel menu      */
/* Called by: EXPENMEN.IPF                                     */
/* Calls:      PERSDFRM.IPF, ERRORFRM.IPF, PFUNDMEN.IPF,      */
/*            PHISTMEN.IPF                                     */
/* Author: R. Booker                                           15 Jan 86                               */

```

```
FORMANS = " ";
```

```

WHILE FORMANS NE "3" DO      ! don't exit module
    PERFORM PERSDFRM;        ! personnel menu
    PUTFORM PERSDFRM;
    GETFORM PERSDFRM;

```

```

    WHILE NOT (FORMANS IN ["1","2","3"]) DO
        PERFORM ERRORFRM;
        PUTFORM ERRORFRM;
        GETFORM ERRORFRM;
    ENDWHILE;

```

```

TEST FORMANS
    CASE "1": PERFORM "PFUNDMEN.IPF"; BREAK;
    CASE "2": PERFORM "PHISTMEN.IPF"; BREAK;
ENDTEST;

```

```
ENDWHILE;          ! formans = "3"
```

```

FORMANS = " ";      ! places a blank at calling menu prompt
RETURN;

```

```

/* PFUNDDL.T.IPF (1.1.1.1.2) */
/* Brings up the menu for the deletion of a record from the */
/* personnel funding table. */
/* Called by: PFUNDMEN.IPF */
/* Calls: PFDELFRM.IPF, EROPFUND.IPF, DELTRECL.IPF */
/* Author: R. Booker 22 Jan 86 */

```

```

FORMANS = " ";
ENTRYONE = " ";      ! entered from pfdelfrm
ENTRYTWO = 0;        ! entered from pfdelfrm
PASCOND = 0;         ! condition for deletion
WHILE ENTRYONE = " " AND ENTRYTWO = 0 DO      ! exit from module
    PERFORM PFDELFRM;      ! personnel funding deletion menu
    PUTFORM PFDELFRM;
    GETFORM PFDELFRM;
    WHILE ENTRYONE = " " AND ENTRYTWO = 0 DO ! check input
        PERFORM EROPFUND;
        PUTFORM EROPFUND;
        GETFORM EROPFUND;
    ENDWHILE;
    IF ENTRYONE NE " " THEN
        PASCOND = 1;      ! delete by last name
        PERFORM "DELTRECL.IPF" USING "\"PFUNDING\"",\
            "ENTRYONE", "PASCOND";
    ELSE
        IF ENTRYTWO NE 0 THEN
            PASCOND = 2;    ! delete by labor #
            PERFORM "DELTRECL.IPF" USING "\"PFUNDING\"",\
                "ENTRYTWO", "PASCOND";
        ENDIF;
    ENDIF;
ENDWHILE;      ! formans not blank
ENTRYONE = " "; ENTRYTWO = 0;
FORMANS = " ";      ! places a blank at calling module prompt
RETURN;

```

```

/* PFUNDMEN.IPF - Brings up the menu for personnel funding. */
/* (1.1.1.1)      The following options then may be selected:*/
/*                browse the personnel funding table, update,*/
/*                add or delete a record.                      */
/* Called by: PERSDMEN.IPF                                     */
/* Calls:       PFUNDFRM.IPF, ERRORFRM.IPF, BRWTABLE.IPF,      */
/*             CRTRECRD.IPF, PFUNDUPD.IPF, PFUNDDLIT.IPF       */
/* Author: R. Booker          15 Jan 86                        */

```

```
FORMANS = " ";
```

```

WHILE FORMANS NE "5" DO      ! exit from module
    PERFORM PFUNDFRM;         ! personnel funding menu
    PUTFORM PFUNDFRM;
    GETFORM PFUNDFRM;

```

```
! check input
```

```

WHILE NOT (FORMANS IN ["1","2","3","4","5"]) DO
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```
TEST FORMANS
```

```

CASE "1": PERFORM "BRWTABLE.IPF" USING "\"PFUNDING\"";
          BREAK;
CASE "2": PERFORM "PFUNDUPD.IPF"; BREAK;
CASE "3": PERFORM "CRTRECRD.IPF" USING "\"PFUNDING\"";
          BREAK;
CASE "4": PERFORM "PFUNDDLIT.IPF"; BREAK;

```

```
ENDTEST;
```

```
ENDWHILE;      ! formans = "5"
```

```
FORMANS = " "; RETURN;
```

```

/* PFUNDRPT.IPF (2.1.1) */
/* This module prints the personnel funding report. */
/* Called by: PRPRTMEN.IPF */
/* Calls:      TRPLDFRM.IPF */
/* Author:      R. Booker      15 Jan 86 */

```

```

PERFORM TRPLDFRM; ! Table and Report Loading form
PUTFORM TRPLDFRM;

```

```

E.LSTR = 25;          ! Change string length to 25 characters
E.OPRN = TRUE;        ! Send output to printer.
E.PDEP = 62;          ! Change page depth to 62 lines.
E.PWID = 130;         ! Change page width to 130 character.

```

```

USE PFUNDING          ! Personnel Funding table.

```

```

REPORT "PFUNDRPT" ORDER BY AZ PFUNDING.LNAME,\
      AZ PFUNDING.FUNDFROM, AZ PFUNDING.FUNDTO
      ! Report was created with K-Report.

```

```

FINISH PFUNDING

```

```

E.LSTR = 15;          ! Change all environment variables to their
E.OPRN = FALSE;       ! defaults.
E.PDEP = 60;
E.PWID = 120;

```

```

FORMANS = " ";        ! places a blank at calling module's prompt
RETURN;

```

```

/* PFUNDUPD.IPF (1.1.1.1.1) - Brings up the menu for updating */
/* of the personnel funding table. */
/* Called by: PFUNDMEN.IPF */
/* Calls:      PFUPDFRM.IPF, EROPFUND.IPF, UPDRECRD.IPF */
/* Author: R. Booker      22 Jan 86 */

```

```

FORMANS = " ";
ENTRYONE = " "; ! the 1st condition for an update, entered
                ! from pfupdfm
ENTRYTWO = 0; ! the 2nd condition for an update, entered
                ! from pfupdfm
PASCOND = 0; ! the field to search for the update
WHILE ENTRYONE = " " AND ENTRYTWO = 0 DO ! exit from module
    PERFORM PFUPDFRM; ! personnel funding update menu
    PUTFORM PFUPDFRM;
    GETFORM PFUPDFRM;
    WHILE ENTRYONE = " " AND ENTRYTWO = 0 DO ! check input
        PERFORM EROPFUND;
        PUTFORM EROPFUND;
        GETFORM EROPFUND;
    ENDWHILE;
    IF ENTRYONE NE " " THEN
        PASCOND = 1; ! update by last name
        PERFORM "UPDRECRD.IPF" USING "\"PFUNDING\"",\
            "ENTRYONE", "PASCOND";
    ELSE
        IF ENTRYTWO NE 0 THEN
            PASCOND = 2; ! update by labor #
            PERFORM "UPDRECRD.IPF" USING "\"PFUNDING\"",\
                "ENTRYTWO", "PASCOND";
        ENDIF;
    ENDIF;
ENDWHILE; ! formans not blank
ENTRYONE = " "; ENTRYTWO = 0;
FORMANS = " "; RETURN;

```

```

/* PHISTDLT.IPF (1.1.1.2.2) */
/* Brings up the menu for the deletion of a record from */
/* personnel history table. */
/* Called by: PHISTMEN.IPF */
/* Calls: PHDELFRM.IPF, EROPHIST.IPF, DELTRECl.IPF */
/* Author: R. Booker 19 Jan 86 */

```

```
FORMANS = " ";
```

```
ENTRYONE = " "; ! entered from phdelfrm
```

```
PASCOND = 0; ! condition for deletion, no choice = 0
```

```
WHILE ENTRYONE = " " DO ! exit from module
```

```

    PERFORM PHDELFRM; ! personnel history deletion menu
    PUTFORM PHDELFRM;
    GETFORM PHDELFRM;

```

```

    WHILE ENTRYONE = " " DO ! check input
        PERFORM EROPHIST;
        PUTFORM EROPHIST;
        GETFORM EROPHIST;
    ENDWHILE;

```

```

    PERFORM "DELTRECl.IPF" USING "\"PHISTORY\"", "ENTRYONE", \
        "PASCOND";

```

```
ENDWHILE; ! formans not blank
```

```
ENTRYONE = " ";
```

```

FORMANS = " "; ! places a blank at calling module prompt
RETURN;

```

```

/* PHISTMEN.IPF - Brings up the menu for the personnel history*/
/* (1.1.1.2)      table. The following options are then      */
/*                possible: browse a table, update, add or    */
/*                delete a record, and quit.                  */
/* Called by: PERSDMEN.IPF                                     */
/* Calls:        PHISTFRM.IPF, ERRORFRM.IPF, BRWTABLE.IPF,     */
/*                PHISTUPD.IPF, CRTRECRD.IPF, PHISTDLT.IPF      */
/* Author: R. Booker      15 Jan 86                             */

```

```
FORMANS = " ";
```

```

WHILE FORMANS NE "5" DO      ! exit from module
    PERFORM PHISTFRM;        ! personnel history menu
    PUTFORM PHISTFRM;
    GETFORM PHISTFRM;

```

```
! check input
```

```

WHILE NOT (FORMANS IN ["1","2","3","4","5"]) DO
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```
TEST FORMANS
```

```

CASE "1": PERFORM "BRWTABLE.IPF" USING "\"PHISTORY\"";
          BREAK;
CASE "2": PERFORM "PHISTUPD.IPF"; BREAK;
CASE "3": PERFORM "CRTRECRD.IPF" USING "\"PHISTORY\"";
          BREAK;
CASE "4": PERFORM "PHISTDLT.IPF"; BREAK;

```

```
ENDTEST;
```

```
ENDWHILE;      ! formans = "5"
```

```
FORMANS = " "; RETURN;
```

```

/* PHISTRPT.IPF (2.1.2) */
/* This module prints the personnel history report */
/* Called by: PRPRTMEN.IPF */
/* Calls:      TRPLDFRM.IPF */
/* Author:      R. Booker      15 Jan 86 */

```

```

PERFORM TRPLDFRM; ! Table and Report Loading form
PUTFORM TRPLDFRM;

```

```

E.LSTR = 25;          ! Change string length to 25 characters.
E.OPRN = TRUE;        ! Send output to printer.
E.PDEP = 62;          ! Change page depth to 62 lines.
E.PWID = 136;         ! Change page width to 136 character.
USE PHISTORY          ! Personnel History table.

```

```

REPORT "PHISTRPT" ORDER BY AZ LNAME
                        ! Report was created with K-Report.

```

```

FINISH PHISTORY

```

```

E.LSTR = 15;          ! Change all environment variables to
                        ! their defaults.

```

```

E.OPRN = FALSE;
E.PDEP = 60;
E.PWID = 120;

```

```

FORMANS = " ";        ! places a blank at calling module's prompt
RETURN;

```



```

/* PHISTUPD.IPF - Brings up the menu for updating of the      */
/* (1.1.1.2.1)    personnel history table.                    */
/* Called by: PHISTMEN.IPF                                     */
/* Calls:        PHUPDFRM.IPF, EROPHIST.IPF, UPDRECRD.IPF      */
/* Author: R. Booker      18 Jan 86                             */

```

```
FORMANS = " ";
```

```
ENTRYONE = " ";      ! the condition for an update, entered from
                     ! phupdfm
```

```
PASCOND = 0;         ! the field to search for the update;
                     ! 0 = no option
```

```
WHILE ENTRYONE = " " DO      ! exit from module
```

```

    PERFORM PHUPDFRM;        ! personnel history update menu
    PUTFORM PHUPDFRM;
    GETFORM PHUPDFRM;

```

```

    WHILE ENTRYONE = " " DO ! check input
        PERFORM EROPHIST;
        PUTFORM EROPHIST;
        GETFORM EROPHIST;
    ENDWHILE;

```

```

    PERFORM "UPDRECRD.IPF" USING "\"PHISTORY\"", "ENTRYONE",\
        "PASCOND";

```

```
ENDWHILE;          ! formans not blank
```

```
ENTRYONE = " ";
```

```

FORMANS = " ";      ! places a blank at calling module prompt
RETURN;

```

```

/* PRPRTMEN.IPF (2.1) - Brings up the personnel reports menu */
/* Called by: REPRTMEN.IPF                                     */
/* Calls:      PFUNDRPT.IPF, PHISTRPT.IPF, PRPRTFRM.IPF,      */
/*            ERRORFRM.IPF                                     */
/* Author:     R. Booker           15 Jan 86                   */

```

```
FORMANS = " ";
```

```
WHILE FORMANS NE "3" DO      ! exit from module
```

```

    PERFORM PRPRTFRM;      ! personnel menu
    PUTFORM PRPRTFRM;
    GETFORM PRPRTFRM;

```

```

WHILE NOT (FORMANS IN ["1","2","3"]) DO
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```

TEST FORMANS
    CASE "1": PERFORM "PFUNDRPT.IPF"; BREAK;
    CASE "2": PERFORM "PHISTRPT.IPF"; BREAK;
ENDTEST;

```

```
ENDWHILE;      ! formans = "3"
```

```

FORMANS = " "; ! places a blank at calling modules prompt
RETURN;

```

```

/* PURCHDLT.IPF (1.1.3.2) */
/* Brings up the menu for the deletion of a record from
/* purchase table.
/* Called by: PURCHMEN.IPF
/* Calls: PUDELFRM.IPF, EROTVLEX.IPF, DELTREC1.IPF
/* Author: R. Booker 22 Jan 86

```

```
FORMANS = " ";
```

```
ENTRYONE = " "; ! entered from pudelfrm
```

```
PASCOND = 0; ! condition for deletion, no choice = 0
```

```
WHILE ENTRYONE = " " DO ! exit from module
```

```
    PERFORM PUDELFRM; ! purchase deletion menu
```

```
    PUTFORM PUDELFRM;
```

```
    GETFORM PUDELFRM;
```

```
WHILE ENTRYONE = " " DO ! check input
```

```
    PERFORM EROTVLEX; ! same error form as travel
```

```
    PUTFORM EROTVLEX; ! expenses
```

```
    GETFORM EROTVLEX;
```

```
ENDWHILE;
```

```
PERFORM "DELTREC1.IPF" USING "\"PURCHASE\"", "ENTRYONE", \
    "PASCOND";
```

```
ENDWHILE; ! formans not blank
```

```
ENTRYONE = " ";
```

```
FORMANS = " "; ! places a blank at calling module prompt
```

```
RETURN;
```

```

/* PURCHMEN.IPF - Brings up the menu for purchase, and offers*/
/* (1.1.3)         the following options; browse the table, */
/*                update, add, delete a record from it, or */
/*                quit. */
/* Called by: EXPENMEN.IPF */
/* Calls:      PURCHFRM.IPF, ERRORFRM.IPF, BRWTABLE.IPF, */
/*            PURCHUPD, CRTRECRD.IPF, PURCHDLT.IPF */
/* Author: R. Booker          15 Jan 86 */

```

```
FORMANS = " ";
```

```

WHILE FORMANS NE "5" DO      ! exit from module
    PERFORM PURCHFRM;         ! purchase menu
    PUTFORM PURCHFRM;
    GETFORM PURCHFRM;

```

```
! check input
```

```

WHILE NOT (FORMANS IN ["1","2","3","4","5"]) DO
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```
TEST FORMANS
```

```

CASE "1": PERFORM "BRWTABLE.IPF" USING "\"PURCHASE\"";
          BREAK;
CASE "2": PERFORM "PURCHUPD.IPF"; BREAK;
CASE "3": PERFORM "CRTRECRD.IPF" USING "\"PURCHASE\"";
          BREAK;
CASE "4": PERFORM "PURCHDLT.IPF"; BREAK;

```

```
ENDTEST;
```

```

ENDWHILE;      ! formans = "5"
FORMANS = " "; ! places a blank at calling module prompt
RETURN;

```

```

/* PURCHUPD.IPF - Brings up the menu for updating of the      */
/* (1.1.3.1)      purchase table.                               */
/* Called by: PURCHMEN.IPF                                     */
/* Calls:      PUUPDFRM.IPF, EROTVLEX.IPF, UPDRECRD.IPF        */
/* Author: R. Booker      23 Jan 86                             */

```

```
FORMANS = " ";
```

```
ENTRYONE = " ";      ! the condition for an update, entered
                    ! from puupdfrm
```

```
PASCOND = 0;          ! the field to search for the update;
                    ! 0 = no option
```

```
WHILE ENTRYONE = " " DO      ! exit from module
```

```
    PERFORM PUUPDFRM;          ! purchase update menu
    PUTFORM PUUPDFRM;
    GETFORM PUUPDFRM;
```

```
    WHILE ENTRYONE = " " DO  ! check input
        PERFORM EROTVLEX;    ! same error form as travel
        PUTFORM EROTVLEX;    ! expenses
        GETFORM EROTVLEX;
    ENDWHILE;
```

```
    PERFORM "UPDRECRD.IPF" USING "\"PURCHASE\"", "ENTRYONE",\
        "PASCOND";
```

```
ENDWHILE;      ! formans not blank
```

```
ENTRYONE = " ";
```

```
FORMANS = " ";      ! places a blank at calling module prompt
RETURN;
```

```

/* PURRTMEN.IPF - Brings up the requisition status/quarterly */
/* (2.2)          inventory reports menu                      */
/* Called by:     REPRTMEN.IPF                                */
/* Also calls:    PURRTFRM.IPF, ERRORFRM.IPF, REQUSRPT.IPF,   */
/*               INVENRPT.IPF                                */
/* Author:        R. Booker          15 Jan 86                */

```

```
FORMANS = " ";
```

```
WHILE FORMANS NE "3" DO      ! exit from module
```

```

    PERFORM PURRTFRM; ! requisition status/quarterly inventory
    PUTFORM PURRTFRM; ! form
    GETFORM PURRTFRM;

```

```
WHILE NOT (FORMANS IN ["1","2","3"]) DO
```

```

    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;

```

```
ENDWHILE;
```

```
TEST FORMANS
```

```

    CASE "1": PERFORM "REQUSRPT.IPF"; BREAK;
    CASE "2": PERFORM "INVENRPT.IPF"; BREAK;

```

```
ENDTEST;
```

```
ENDWHILE;      ! formans = "3"
```

```

FORMANS = " "; ! places a blank at calling modules prompt
RETURN;

```

```

/* REPRTMEN.IPF - Brings up the reports menu, and performs */
/* (2)           either PRPRTMEN.IPF, PURRTMEN.IPF,          */
/*              OUTSTRPT.IPF                                */
/* Called by: MAINMEN.IPF                                   */
/* Calls:       REPRTFRM.IPF, ERRORFRM.IPF, PRPRTMEN.IPF,    */
/*              PURRTMEN.IPF, OUTSTRPT.IPF                  */
/* Author: R. Booker                                     15 Jan 86 */

```

```
FORMANS = " ";
```

```
WHILE FORMANS NE "5" DO      ! exit from module
```

```

    PERFORM REPRTFRM;        ! reports menu
    PUTFORM REPRTFRM;
    GETFORM REPRTFRM;

```

```

WHILE NOT (FORMANS IN ["1","2","4","5"]) DO
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```

TEST FORMANS
CASE "1": PERFORM PRPRTMEN; BREAK;
CASE "2": PERFORM PURRTMEN; BREAK;
/*      CASE "3": PERFORM BALACRPT; BREAK;          */
CASE "4": PERFORM OUTSTRPT; BREAK;
ENDTEST;

```

```
ENDWHILE;      ! formans = "5"
```

```

FORMANS = " "; ! places a blank at calling module's prompt
RETURN;

```

```

/* REQRPT.IPF (2.2.1) */
/* This module prints the requisition status report. */
/* Called by: PURRTMEN.IPF */
/* Calls:      TRPLDFRM.IPF */
/* Author:      R. Booker      15 Jan 86 */

```

```

PERFORM TRPLDFRM; ! Table and Report Loading form
PUTFORM TRPLDFRM;

```

```

E.LSTR = 50;          ! Change string length to 30 characters.
E.OPRN = TRUE;        ! Send output to printer.
E.PDEP = 62;          ! Change page depth to 62 lines.
E.PWID = 130;         ! Change page width to 130 character.

```

```

USE PURCHASE          ! Purchase table.

```

```

REPORT "REQRPT"       ! Report was created with K-Report.
FINISH PURCHASE

```

```

E.LSTR = 15;          ! Change all environment variables to their
                      ! defaults.

```

```

E.OPRN = FALSE;
E.PDEP = 60;
E.PWID = 120;

```

```

FORMANS = " "; ! places a blank at calling module's prompt
RETURN;

```



```

/* TRAVLMEN.IPF - Brings up the menu for travel expenses, */
/* (1.1.2) and offers the following options: browse the */
/* travel expense table, update, add or delete */
/* a record from it. */
/* Called by: EXPENMEN.IPF */
/* Calls: TRAVFRM.IPF, ERRORFRM.IPF, BRWTABLE.IPF, */
/* TVLEXUPD.IPF, CRTRECRD.IPF, TVLEXDLT.IPF */
/* Author: R. Booker 15 Jan 86 */

```

```
FORMANS = " ";
```

```
WHILE FORMANS NE "5" DO ! exit from module
```

```

    PERFORM TRAVFRM; ! travel expenses menu
    PUTFORM TRAVFRM;
    GETFORM TRAVFRM;

```

```
! check input
```

```

WHILE NOT (FORMANS IN {"1","2","3","4","5"}) DO
    PERFORM ERRORFRM;
    PUTFORM ERRORFRM;
    GETFORM ERRORFRM;
ENDWHILE;

```

```
TEST FORMANS
```

```

CASE "1": PERFORM "BRWTABLE.IPF" USING "\"TVLEXP\"";
          BREAK;
CASE "2": PERFORM "TVLEXUPD.IPF"; BREAK;
CASE "3": PERFORM "CRTRECRD.IPF" USING "\"TVLEXP\"";
          BREAK;
CASE "4": PERFORM "TVLEXDLT.IPF"; BREAK;

```

```
ENDTEST;
```

```

ENDWHILE; ! formans = "5"
FORMANS = " "; ! places a plank at calling module prompt
RETURN;

```

```

/* TVLEXDLT.IPF - Brings up the menu for the deletion of a */
/* (1.1.2.2)      record from the travel expenses table. */
/* Called by: TRAVLMEN.IPF */
/* Calls:      TVDELFRM.IPF, EROTVLEX.IPF, DELTRECl.IPF */
/* Author: R. Booker      22 Jan 86 */

```

```
FORMANS = " ";
```

```
ENTRYONE = " ";      ! entered from tvdelfrm
```

```
PASCOND = 0; ! condition for deletion, no choice = 0
```

```
WHILE ENTRYONE = " " DO      ! exit from module
```

```

    PERFORM TVDELFRM;      ! travel expenses deletion menu
    PUTFORM TVDELFRM;
    GETFORM TVDELFRM;

```

```

WHILE ENTRYONE = " " DO ! check input
    PERFORM EROTVLEX;
    PUTFORM EROTVLEX;
    GETFORM EROTVLEX;
ENDWHILE;

```

```

PERFORM "DELTRECl.IPF" USING "\"TVLEXP\"", "ENTRYONE",\
    "PASCOND";

```

```
ENDWHILE;      ! formans not blank
```

```
ENTRYONE = " ";
```

```

FORMANS = " ";      ! places a blank at calling module prompt
RETURN;

```

```

/* TVLEXUPD.IPF - Brings up the menu for updating of the      */
/* (1.1.2.1)      travel expenses table.                      */
/* Called by: TRAVLMEN.IPF                                     */
/* Calls:      TVUPDFRM.IPF, EROTVLEX.IPF, UPDRECRD.IPF        */
/* Author: R. Booker      22 Jan 86                             */

```

```
FORMANS = " ";
```

```
ENTRYONE = " ";      ! the condition for an update, entered
                    ! from tvupdfm
```

```
PASCOND = 0;          ! the field to search for the update;
                    ! 0 = no option
```

```
WHILE ENTRYONE = " " DO      ! exit from module
```

```

    PERFORM TVUPDFRM;          ! travel expenses update menu
    PUTFORM TVUPDFRM;
    GETFORM TVUPDFRM;

```

```

    WHILE ENTRYONE = " " DO    ! check input
        PERFORM EROTVLEX;
        PUTFORM EROTVLEX;
        GETFORM EROTVLEX;
    ENDWHILE;

```

```

    PERFORM "UPDRECRD.IPF" USING "\"TVLEXP\"", "ENTRYONE",\
        "PASCOND";

```

```
ENDWHILE;          ! formans not blank
```

```
ENTRYONE = " ";
```

```

FORMANS = " ";      ! places a blank at calling module prompt
RETURN;

```

```

/* UPDRECRD.IPF - This module updates a record in a table. */
/* Called by: INDIRUPD.IPF, OPTARUPD.IPF, PFUNDUPD.IPF, */
/*           PHISTUPD.IPF, PURCHUPD.IPF, TVLEXUPD.IPF, */
/*           OTHERUPD.IPF, INVENUPD.IPF */
/* Calls:    INDIRECT.IPF, OPTAR.IPF, PFUNDING.IPF, */
/*           PHISTORY.IPF, PURCHASE.IPF, TVLEXP.IPF, */
/*           OTHER.IPF, TABLDFRM.IPF, INVENTOR.IPF */
/* Author: R. Booker           18 Jan 86 */

```

```

E.ICAS = TRUE;      ! ignore case differences among string values
PERFORM TABLDFRM;
PUTFORM TABLDFRM;

```

```

TABLE = #A;          ! passed from calling module

```

```

UPDATVAR = #B;       ! the condition variable for the search

```

```

COND = #C; ! the condition field for selecting records for update

```

```

TEST TABLE

```

```

CASE "INDIRECT":

```

```

    USE INDIRECT;

```

```

    LOAD FROM INDIRECT;      ! the indirect funds entry form

```

```

    IF COND = 1 THEN         ! browse on COSTCODE

```

```

        BROWSE INDIRECT FOR COSTCODE = UPDATVAR ALL \
        WITH INDIRECT;

```

```

    ELSE

```

```

        IF COND = 2 THEN     ! browse on PRINCIPL

```

```

            BROWSE INDIRECT FOR PRINCIPL = UPDATVAR ALL \
            WITH INDIRECT;

```

```

        ENDIF;

```

```

    ENDIF;

```

```

    BREAK;

```

```

CASE "INVENTOR":
  USE INVENTOR;
  LOAD FROM INVENTOR;      ! the inventory entry form
  IF COND = 1 THEN        ! browse on PA#
    BROWSE INVENTOR FOR PA# = UPDATVAR ALL \
      WITH INVENTOR;
  ELSE
    IF COND = 2 THEN      ! browse on SERIAL#
      BROWSE INVENTOR FOR SERIAL# = UPDATVAR ALL \
        WITH INVENTOR;
    ENDIF;
  ENDIF;
  BREAK;

CASE "OPTAR":
  USE OPTAR;
  LOAD FROM OPTAR;        ! the OPTAR entry form
  IF COND = 1 THEN        ! browse on RECEIVED
    BROWSE OPTAR FOR RECEIVED = UPDATVAR ALL \
      WITH OPTAR;
  ELSE
    IF COND = 2 THEN      ! browse on ENTRY
      BROWSE OPTAR FOR ENTRY = UPDATVAR ALL \
        WITH OPTAR;
    ENDIF;
  ENDIF;
  BREAK;

```

```

CASE "OTHER":
  USE OTHER;
  LOAD FROM OTHER;      ! the other funds entry form
  IF COND = 1 THEN      ! browse on COSTCODE
    BROWSE OTHER FOR COSTCODE = UPDATVAR ALL \
      WITH OTHER;
  ELSE
    IF COND = 2 THEN ! browse on PRINCIPL
      BROWSE OTHER FOR PRINCIPL = UPDATVAR ALL \
        WITH OTHER;
    ENDIF;
  ENDIF;
  BREAK;

CASE "PFUNDING":
  USE PFUNDING;
  LOAD FROM PFUNDING; ! the personnel funding entry form
  IF COND = 1 THEN    ! browse on LNAME
    BROWSE PFUNDING FOR LNAME = UPDATVAR ALL \
      WITH PFUNDING;
  ELSE
    IF COND = 2 THEN ! browse on LABOR#
      BROWSE PFUNDING FOR LABOR# = UPDATVAR ALL \
        WITH PFUNDING;
    ENDIF;
  ENDIF;
  BREAK;

CASE "PHISTORY":
  USE PHISTORY;
  LOAD FROM PHISTORY; ! the personnel history entry form
  BROWSE PHISTORY FOR LNAME = UPDATVAR ALL WITH PHISTORY;
  BREAK;

```

```
CASE "PURCHASE":  
    USE PURCHASE;  
    LOAD FROM PURCHASE;    ! the purchase entry form  
    BROWSE PURCHASE FOR DOC# = UPDATVAR ALL WITH PURCHASE;  
    BREAK;  
  
CASE "TVLEXP":  
    USE TVLEXP;  
    LOAD FROM TVLEXP;    ! the travel expenses entry form  
    BROWSE TVLEXP FOR DOC# = UPDATVAR ALL WITH TVLEXP;  
    BREAK;  
  
ENDTEST;  
  
FINISH ALL;  
  
FORMANS = " ";  
  
RETURN;
```

APPENDIX J LIST OF TABLES

This appendix contains a list of the AS System's tables. Appendix C (the Data Dictionary) and the AS System's User's Manual contains additional information about the tables's fields. The inclosed information may be obtained by using KnowledgeMan's "show" command.

Table name : INDIRECT
File name : INDIRECT.ITB
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Creation Date : 02/25/86
Modification Date : 02/25/86
Number of Records : 44

Field : #MARK LOGIC
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : (default)

Field : ENTRY NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : STATUS STR 25
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%25r"

Field : PRINCIPL STR 20
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%20r"

Field : SPONSOR STR 40
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%40r"

Field : PROPOSAL STR 130
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%130r"

Field : PERIOD STR 20
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%20r"

Field : ESTIMATE NUM
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN
Picture : "\$ddddd.dd"

Field : DEPTIC NUM
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN
Picture : "\$ddddd.dd"

Field : MIPR# STR 15
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN
Picture : "%15r"

Field : REF# STR 25
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN
Picture : "%25r"

Field : AUTH NUM
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN
Picture : "\$ddddd.dd"

Field : COSTCODE STR 5
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN
Picture : "%5r"

Field : EXPIRE NUM
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN
Picture : "dd-dd-dd"

Field : ICRECD NUM
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN
Picture : "\$ddddd.dd"

Field : REMARKS STR 50
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%50r"

Field : STAFFLBR NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "\$ddddd.dd"

Field : ASAPPRO NUM
Read Access : A.....
Write Access : A.....
Picture : "\$ddddd.dd"

Field : DOC# STR 15
Read Access : A.....
Write Access : A.....
Picture : "%15r"

Field : SEGMENT STR 6
Read Access : A.....
Write Access : A.....
Picture : "%6r"

Field : SERIALS NUM
Read Access : A.....
Write Access : A.....
Picture : "dddd-dddd"

Table name : INVENTOR
File name : INVENTOR.ITB
Read Access : A.....
Write Access : A.....
Creation Date : 12/18/85
Modification Date : 12/18/85
Number of Records : 0

Field : #MARK LOGIC
Read Access : A.....
Write Access : A.....
Picture : (default)

Field : PA# STR 6
Read Access : A.....
Write Access : A.....
Picture : "%6r"

Field : VENDOR STR 40
Read Access : A.....
Write Access : A.....
Picture : "%40r"

Field : DESCRIPT STR 50
Read Access : A.....
Write Access : A.....
Picture : "%50r"

Field : SERIAL# STR 12
Read Access : A.....
Write Access : A.....
Picture : "%12r"

Field : PO# STR 9
Read Access : A.....
Write Access : A.....
Picture : "%9r"

Field : COST NUM
Read Access : A.....
Write Access : A.....
Picture : "\$ddddd.dd"

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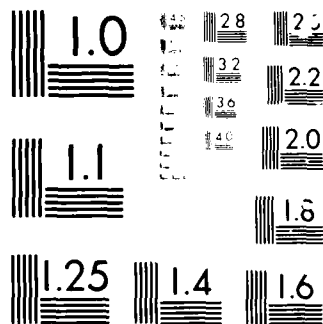
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Field : RECEIVED NUM
Read Access : A.....
Write Access : A.....
Picture : "dd-dd-dd"

Field : ISSUE STR 25
Read Access : A.....
Write Access : A.....
Picture : "%25r"

Field : LOCATION STR 7
Read Access : A.....
Write Access : A.....
Picture : "%37r"

Table name : OPTAR
File name : OPTAR.ITB
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Creation Date : 02/25/86
Modification Date : 02/26/86
Number of Records : 2

Field : #MARK LOGIC
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : (default)

Field : ENTRY NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : RECEIVED NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : AUTH NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "\$ddddd.dd"

Field : TAUTH NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "\$ddddd.dd"

Field : ACTUAL NUM
Read Access : A.....
Write Access : A.....
Picture : "\$ddddd.dd"

Field : TACTUAL NUM
Read Access : A.....
Write Access : A.....
Picture : "\$ddddd.dd"

Field : DIFFER
Virtual field : ((ACTUAL - AUTH))
Read Access : A.....
Picture : (default)

Field : TDIFFER
Virtual field : ((TACTUAL - TAUTH))
Read Access : A.....
Picture : (default)

Table name : OTHER
File name : OTHER.ITB
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Creation Date : 02/25/86
Modification Date : 02/25/86
Number of Records : 6

Field : #MARK LOGIC
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : (default)

Field : ENTRY NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : STATUS STR 25
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%25r"

Field : EXPIRE NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : PRINCIPL STR 20
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%20r"

Field : SPONSOR STR 35
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%35r"

Field : PROPOSAL STR 130
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%130r"

Field : COSTCODE STR 5
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN
Picture : "%5r"

Field : AUTH NUM
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN
Picture : "\$ddddd.dd"

Field : REMARKS STR 50
Read Access : ABCDEFGHIJKLMN
Write Access : ABCDEFGHIJKLMN
Picture : "%50r"

Table name : PFUNDING
File name : PFUNDING.ITB
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Creation Date : 02/27/86
Modification Date : 02/27/86
Number of Records : 314

Field : #MARK LOGIC
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : (default)

Field : ENTRY NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : LNAME STR 25
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%25r"

Field : FNAME STR 15
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%15r"

Field : FUNDFROM NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : FUNDTO NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : DAYS STR 5
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%5r"

Field : COSTCODE STR 5
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%5r"

Field : AMOUNT NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "\$ddddd.dd"

Field : LABOR# NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : CODE STR 3
Read Access : A.....
Write Access : A.....
Picture : "%3r"

Field : HOURS NUM
Read Access : A.....
Write Access : A.....
Picture : "d"

Field : RATE NUM
Read Access : A.....
Write Access : A.....
Picture : "\$ddd.dd"

Field : HRSWK NUM
Read Access : A.....
Write Access : A.....
Picture : "dd"

Table name : PHISTORY
File name : PHISTORY.ITS
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Creation Date : 02/27/86
Modification Date : 02/27/86
Number of Records : 27

Field : #MARK LOGIC
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : (default)

Field : ENTRY NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : LNAME STR 25
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%25r"

Field : FNAME STR 15
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%15r"

Field : DOB NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : EFFECTIV NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : STATUS STR 6
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%6r"

Field : BILLET# STR 4
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%4r"

Field : JOBTITLE STR 30
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%30r"

Field : ES NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : WORKUNIT STR 10
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%10r"

Field : SUPERVSR STR 25
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%25r"

Field : PD# STR 5
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%5r"

Field : SERIES NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "ddddd"

Field : GRADE NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd"

Field : STEP NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd"

Field : SALARY NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "\$ddddd.dd"

Field : HRSWK NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd"

Field : EXPIRE NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : REMARKS STR 100
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "3100r"

Field : RATE
Virtual field : (((SALARY / 2087) * 3 * 1.30000)))
Read Access : ABCDEFGHIJKLMNOP
Picture : "\$ddd.dd"

Table name : PURCHASE
File name : PURCHASE.ITB
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Creation Date : 02/11/86
Modification Date : 02/28/86
Number of Records : 268

Field : #MARK LOGIC
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : (default)

Field : ENTRY NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : DOC# STR 10
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "310r"

Field : COSTCODE STR 5
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "35r"

Field : VENDOR STR 40
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "340r"

Field : DESCRIPT STR 50
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "350r"

Field : STOCK# STR 20
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "320r"

Field : ESTIMATE NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "\$ddddd.dd"

Field : PRIORITY NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd"

Field : RDD NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : CODE STR 3
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%3r"

Field : REQUEST STR 25
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%25r"

Field : PO# STR 9
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%9r"

Field : RECEIVED NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : FIRM NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "\$ddddd.dd"

Field : SERIAL# STR 12
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%12r"

Field : PA# STR 17
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%17r"

Field : ISSUE STR 25
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%25r"

Field : LOCATION STR 7
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%7r"

Field : REMARKS STR 50
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%50r"

Field : QTY STR 3
Read Access : A.....
Write Access : A.....
Picture : "rrr"

Table name : TVLEXP
File name : TVLEXP.ITS
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Creation Date : 02/28/86
Modification Date : 02/23/86
Number of Records : 133

Field : #MARK LOGIC
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : (default)

Field : DATEDEP NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : REQUESTR STR 20
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%20r"

Field : LOCATION STR 25
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%25r"

Field : CODE STR 3
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%3r"

Field : ESTIMATE NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "\$dddd.dd"

Field : COSTCODE STR 5
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%5r"

Field : DOC# STR 10
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "%10r"

Field : ADVANCE NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "\$ddd.dd"

Field : DATERET NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : CLAIM NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : FIRM NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "\$dddddd.dd"

Field : ENTRY NUM
Read Access : ABCDEFGHIJKLMNOP
Write Access : ABCDEFGHIJKLMNOP
Picture : "dd-dd-dd"

Field : DOV# STR 5
Read Access : A.....
Write Access : A.....
Picture : "rrrrr"

VII. LIST OF REFERENCES

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